Post-Acceptance Limitation of Liability for High-Value Items: Unfinished Business from the Commission on Government Procurement By Anthony Larry Steadman

B.S., May 1983, Birmingham-Southern CollegeM.S., August 1988, Air Force Institute of TechnologyJ.D., May 1990, Suffolk University Law School

A Thesis submitted to

The Faculty of

The George Washington University
Law School
in partial satisfaction of the requirements
for the degree of Master of Laws

July 15, 1999

Thesis directed by Professor Steven Schooner Professor of Law

DTIC QUALITY INSPECTED 4

19991108 127

REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blan	1k) 2. REPORT DATE	3. REPORT TYPE AND DATI	S COVERED	
٠	27.Sep.99	Т	HESIS	
4. TITLE AND SUBTITLE		I	NDING NUMBERS	
POST-ACCEPTANCE LIMITAION OF LIABILITY FOR HIGH-VALUE ITEMS:				
UNFINISHED BUSINESS FROM THE COMMISSION ON GOVERNMENT				
PROCUREMENT				
6. AUTHOR(S)	•			
MAJ STEADMAN ANTHONY	L			
7 05050014110 000-141717	NARACION AND ADDDCOOPEO	0.25	REFORMING ORGANIZATION	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) GEORGE WASHINGTON UNIVERSITY			PORT NUMBER	
GEORGE WASHINGTON UNIVERSITY				
9. SPONSORING/MONITORING AG	GENCY NAME(S) AND ADDRESS(E	S) 10. SF	PONSORING/MONITORING	
THE DEPARTMENT OF THE			GENCY REPORT NUMBER	
AFIT/CIA, BLDG 125			TT00 211	
2950 P STREET			FY99-311	
WPAFB OH 45433				
11. SUPPLEMENTARY NOTES				
	* *	and the second of the second o	•	
12a. DISTRIBUTION AVAILABILITY	STATEMENT	112h F	DISTRIBUTION CODE	
Unlimited distribution In Accordance With AFI 35-205/AFIT Sup 1 DISTRIBUTION STATEMENT A				
	/AFIT Sup 1 DIST	RIBUTION STATEME	VT Ą	
In Accordance With AFI 35-205	Apr	proved for Public Relea	NT A ISE	
	Apr	proved for Public Relea	NT A ISE	
	Apr	RIBUTION STATEMEN proved for Public Relead Distribution Unlimited	NT A ISE	
	Apr	proved for Public Relea	NT A ase	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	NT A ise	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	NT A, ase	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	NT A	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	NT A	
In Accordance With AFI 35-205	Apr	proved for Public Relea	NT A	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	NT A	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	NT A ISC	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	NT A	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	NT A ase	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	NT A ISC	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	NT A ISC	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	NT A ISC	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	NT A ASE	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	NT A ISE	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	NT A ISC	
In Accordance With AFI 35-205,	Apr	proved for Public Relea	ISC NUMBER OF PAGES	
In Accordance With AFI 35-205, 13. ABSTRACT (Maximum 200 work)	Apr	proved for Public Relea	15. NUMBER OF PAGES 75	
In Accordance With AFI 35-205, 13. ABSTRACT (Maximum 200 work)	Apr	proved for Public Relea	15. NUMBER OF PAGES	
In Accordance With AFI 35-205, 13. ABSTRACT (Maximum 200 work) 14. SUBJECT TERMS	Apr	proved for Public Release Distribution Unlimited	15. NUMBER OF PAGES 75 16. PRICE CODE	
13. ABSTRACT (Maximum 200 work) 14. SUBJECT TERMS	7ds) 18. SECURITY CLASSIFICATION	Distribution Unlimited 19. SECURITY CLASSIFICATIO	15. NUMBER OF PAGES 75 16. PRICE CODE N 20. LIMITATION OF	
In Accordance With AFI 35-205, 13. ABSTRACT (Maximum 200 work) 14. SUBJECT TERMS	Apr	proved for Public Release Distribution Unlimited	15. NUMBER OF PAGES 75 16. PRICE CODE	

POST-ACCEPTANCE LIMITATION OF LIABILITY FOR HIGH-VALUE ITEMS: UNFINISHED BUSINESS FROM THE COMMISSION ON GOVERNMENT PROCUREMENT

TABLE OF CONTENTS

Introdu	action	1
Part I.	The Government's Self-Insurance Policy for High-Value Items	3
A.	Background	4
В.	Historical Development of the Limitation of Liability Policy	7
C.	An Analysis of the Current Policy Limiting Liability for High-Value Items	9
	1. A Government-wide Policy Statement	9
	2. Liability for the End Item Itself	12
	3. An Exception to the Policy	16
	4. Policy Limits	17
	5. Flowdown Provision Omitted	20
D.	Differences Between the 1972 Commission on Government Procurement Recommendations and Current Policy	21
Part II	Recent Developments Affecting Post-Acceptance Liability	22
A.	Increased Reliance on Commercial Items.	22
	1. FASA	22
	2. TINA	24
	3. Application of Limited Liability	25
В.	Preference for Performance Specifications	26
	1. Implied Warranty of Specification	28
	2. The Government Contractor Defense	30
·C	A Leaner Acquisition Workforce	34

1. More Cuts	34
2. The Impact	36
D. An Argument for Shifting More Risk to the Contractor	38
Part III. Post-Acceptance Liability of High-Value Item Assemblers and Compo	
A. Sellers' Commercial Obligations as Set Forth in the U.C.C	40
B. Allocation of Risk between Commercial Parties of Relatively Equal Barg Strength	
C. Common Law Limitations on Component Part Manufacturer Liability	48
1. Component Part Defense	49
2. Sophisticated Purchaser Doctrine	52
D. A "Shopper's" Need to Understand Commercial Risk Allocation	56
Part IV. Government versus Contractor Post-Acceptance Liability: Consideration Relative Cost	
A. Loss of or Damage to Property Other Than the End Item	57
B. Loss of or Damage to the End Item	60
C. Loss or Damage at the Component Part Level	62
Conclusion	63
Table of Authorities	67

INTRODUCTION

Every contract has risks. It is the type and degree of risks that vary from contract to contract. These risks are allocated through express or implied contract terms. Courts and boards also allocate risk if the parties fail to do so or a dispute arises over allocation.

The types and degree of risks that exist before and after acceptance of a government contract end item² vary significantly. Pre-acceptance cost, schedule, and performance risks are allocated between the government and contractors primarily through selection of the contract type (e.g., cost reimbursement,³ firm-fixed-price,⁴ etc.), almost always dictated by the government. Post-acceptance risks are typically allocated through a variety of means including insurance, specific contract clauses (e.g., inspection and acceptance⁵), and common law principles (e.g., implied warranties⁶).

¹ See Ralph C. Nash, Jr., Risk Allocation in Government Contracts, 34 GEO. WASH. L. REV. 693 (1966); see also JOHN CIBINIC, JR. & RALPH C. NASH, JR., ADMINISTRATION OF GOVERNMENT CONTRACTS 239 (3d ed. 1995) [hereinafter CIBINIC & NASH, ADMINISTRATION].

² The term *end item* is used extensively throughout the Federal Acquisition Regulations but not specifically defined. As used herein, it refers to that which is delivered in fulfillment of the bargain. Examples of *end items* include supply items, weapon systems, and services.

³ See generally FAR 16.3 (description, application, and limitations of cost-reimbursement type contracts).

⁴ See generally FAR 16.202 (description and application of firm-fixed-price type contracts).

⁵ See, e.g., FAR 52.246-2 -- Inspection of Supplies -- Fixed-Price.

⁶ See, e.g., discussion of implied warranty of specification, *infra* Part II.B.I; see also U.C.C. §§ 2-314, 315 (implied warranties of merchantability and fitness for particular purpose, respectively).

Rather than pay increased end item prices to cover the cost of potential post-acceptance risk of loss, the Federal Acquisition Regulations (FAR) relieve the contractor of liability for loss of or damage to government property⁷ that occurs after acceptance resulting from defects or deficiencies in the supplies or services.⁸ In other words, the government self-insures against such post-acceptance loss or damage. For "high-value items," this self-insurance coverage includes loss of or damage to the end item itself. The FAR also calls for a corresponding decrease in the price of end items that are based on catalog or market prices, 11 reflecting the contractor's reduced liability in providing commercial items. 12

It has been 28 years since this self-insurance policy was first promulgated in federal government contracts. This thesis examines the assumptions underlying that policy with respect to high-value items in light of recent changes in the government procurement environment. First, in Part I, I dissect the limitation of liability clause itself

⁷ "Government property, means all property owned by or leased to the Government or acquired by the Government under the terms of the contract. It includes both Government-furnished property and contractor-acquired property..." FAR 45.101 (emphasis added).

⁸ See FAR 46.803(a).

⁹ High-value item is defined as: "a contract end item that (1) [h]as a high unit cost (normally exceeding \$100,000 per unit), such as an aircraft, an aircraft engine, a communication system, a computer system, a missile, or a ship, and (2) [i]s designated by the contracting officer as a high-value item." FAR 46.802.

¹⁰ See FAR 46.803(b).

¹¹ Catalog or market price is information related to commercial items used by a contracting officer to determine a fair and reasonable price. See generally FAR 15.402 (government pricing policy).

¹² See FAR 46.804(b).

to fully understand its origin and applicability. In Part II, I consider the impact of recent developments affecting post-acceptance liability. In Part III, I discuss post-acceptance liability of assembler contractors and component part manufacturers providing insight into common law principles of risk allocation in the commercial marketplace. In Part IV, I examine some of the factors that affect a contracting officer's decision to limit the liability of a contractor or subcontractor. I conclude with recommended changes intended to improve the process of procuring high-value items and allocation of post-acceptance risk of loss.

PART I. THE GOVERNMENT'S SELF-INSURANCE POLICY FOR HIGH-VALUE ITEMS

In the 1960's, Lockheed Aircraft Corporation (Lockheed) sold a P-3B airplane to the Navy. The Navy then sold it to Australia. The airplane subsequently crashed during a routine training mission. Fortunately, no lives were lost. No other damage occurred except for loss of the airplane. An alleged landing gear failure caused the crash. Australia sued Lockheed and its landing gear subcontractor, Menasco Manufacturing Company (Menasco), for nine million dollars. In its complaint, Australia alleged defective product, negligence, breach of warranty of merchantability, and breach of warranty of fitness for particular purpose. Lockheed and Menasco settled out-of-court, with the United States contributing to the price of a replacement aircraft. 13

¹³ See REPORT OF THE COMMISSION ON GOVERNMENT PROCUREMENT, Selected Issues of Liability: Government Property and Catastrophic Accidents, vol. 4, part H, at 91 (1972) [hereinafter REPORT]; see also Student Note, Post-Acceptance Liability in Defense Supply Contracting, 56 VA. L. REV. 923, 937(1970).

These are the essential facts of Australia v. Lockheed Aircraft Corp. ¹⁴ This case highlights potential liability of parties involved in government procurement for loss of or damage to high-value items that occur after final acceptance. The case is also one of the catalysts behind the federal government's current policy of self-insuring against such loss or damage, with some exceptions discussed herein.

A. Background.

The current FAR clause, Limitation of Liability -- High-Value Items, ¹⁵ directly descended from the 1972 REPORT OF THE COMMISSION ON GOVERNMENT PROCUREMENT (REPORT), specifically Part H--Selected Issues of Liability: Government Property and Catastrophic Accidents. The Commission believed such a clause was necessary because "the damage caused by a defective product may greatly exceed the cost of the product itself." The REPORT gave the example of a faulty resistor causing loss of a multimillion-dollar missile. ¹⁷

In addressing the problem, the Commission considered two issues. The first was, the extent to which the "contractor or subcontractor [is] obligated to repair, replace, or pay for loss of or damage to high-cost end items provided under the terms of a government contract." The second was, the extent to which the "contractor or

¹⁴ Australia v. Lockheed Aircraft Corp., No. 69-1623-WPG (Cal. Cent. Dist. Ct., Complaint filed Aug. 18, 1969), cited in REPORT, supra note 13, at 91.

¹⁵ See FAR 52.246-24 (FEB 1997).

 $^{^{16}}$ Summary of the Report of the Commission on Government Procurement, at 103 (1972).

¹⁷ See id.

¹⁸ REPORT, supra note 13, at 91.

subcontractor [is] obligated for the loss of or damage to property other than the end item itself and for other expenses resulting from such loss or damage."¹⁹

Until the 1960's, DOD had an unwritten policy of self-insuring against such risk of loss despite the availability of various warranties and correction of deficiency clauses. The P-3B crash and ensuing litigation caused concern among aerospace contractors and subcontractors that the government was retreating from its practice of self-insuring. Acting on the report from a working group chartered by DOD in 1969, and a special study by the ASPR Committee, DOD clarified its policy regarding self-insurance in February 1971. Defense Procurement Circular (DPC) 86 stated that DOD would self-insure for loss of or damage to government property occurring after final acceptance of supplies and resulting from defects or deficiencies in such supplies.

DOD provided some exceptions to this policy. Contractors providing items that were not high-value did not get relieved of liability for the end item itself.²⁵ There was

¹⁹ REPORT, supra note 13, at 91.

²⁰ See REPORT, supra note 13, at 91, citing Armed Services Procurement Regulations (ASPR) 1-324.1-6, 1-324-9, 1-324-10.

²¹ See REPORT, supra note 13, at 87.

²² See Industry Advisory Council, REPORT OF THE WORKING GROUP ON CONTRACT WARRANTIES (1969), cited in REPORT, supra note 13, at 92.

²³ See U.S. Dep't of Defense, Office of the Assistant Secretary for Installations and Logistics, Warranties—Consequential Damages, ASPR Case 69-131, initiated in June 1969, cited in REPORT, supra note 13, at 92.

²⁴ See Defense Procurement Circular 86, Feb. 12, 1971 [hereinafter DPC 86] (DOD policy of self-insuring officially published).

²⁵ See REPORT, supra note 13, at 94; see also DPC 86, supra note 24, at 3.

also no relief from liability where defects resulted from fraud, gross negligence, willful misconduct, or lack of good faith by certain contractor personnel.²⁶ If it was the contractor's practice to carry insurance or maintain a reserve for self-insurance for liability for loss of or damage to government property, including high-value items, then the limitation of liability did not apply unless the cost of the insurance or reserve was excluded from the price.²⁷

The Commission felt the February 1971 DOD policy statement of self-insurance lacked sufficient clarity for contractors to determine the extent of their liability exposure. As a result, the Commission advocated issuance of a government-wide written policy governing the extent to which, and under what circumstances, the government will act as a self-insurer.²⁸ The Commission believed that this uncertainty could result in an increased cost of the products sold to the government through increased insurance rates.²⁹

The Commission recommended such a policy include five elements: (1) exclude losses caused by willful misconduct or lack of good faith on the part of directors, officers, or principal officials of contractors, subcontractors, and suppliers; (2) exclude standard commercial items where it is the custom of the trade not to provide relief from liability; (3) retain the rights from contract warranties when defects or deficiencies are discovered prior to loss or damage; (4) include all such post-acceptance remedies in one clause exclusive of any other express or implied warranties or action for negligence (excluding

²⁶ See REPORT, supra note 13, at 94; see also DPC 86, supra note 24, at 3.

²⁷ See REPORT, supra note 13, at 94; see also DPC 86, supra note 24, at 3.

²⁸ See REPORT, supra note 13, at 93-95.

²⁹ See id. at 93.

costs for any such contingencies); and (5) exclude liability for injury to, or wrongful death of, third parties (except as provided by indemnification legislation).³⁰ The Commission also recommended that the policy be expanded to include subcontractors and third-party transferees.³¹

In the next subpart, I trace the evolution of the 1971 DOD policy statement to its current form. This sets the stage for a comparison of the current policy to the five policy elements recommended by the Commission.

B. Historical Development of the Limitation of Liability Policy.

As stated above, DPC 86 contained the initial DOD policy statement.³² The drafters saw no need to differentiate between "contractors" and "subcontractors" as evidenced by the following statement: "Reference to subcontracts or subcontractors is not made since the policy applies without distinction as to the source of the supplies." The policy as incorporated into the ASPR, however, explicitly extended coverage to subcontractors. Subcontractor coverage was subject to approval of the contracting officer for major items.³⁴ The ASPR also changed equivalent relief, from the original policy

³⁰ See id. at 96.

³¹ See id. at 93.

³² See DPC 86, supra note 24.

³³ *Id.* at 2.

³⁴ See ASPR 1-330(d), July 1, 1974; see also ASPR 7-104.45, July 1, 1974 (clauses with flowdown provisions).

statement, to read *equitable* relief. These terms refer to government remedies when the defect is discovered after loss or damage occurs.³⁵

In 1980, a requirement to identify *high unit cost items* was added when both major items and other end items are procured.³⁶ Two years later, the Limitation of Liability clause³⁷ was mandated for all contracts exceeding \$25,000 with optional inclusion below that amount if requested by the contractor.³⁸

In 1983, the general policy and associated clauses were carried over substantially in tact with establishment of the FAR.³⁹ After an "extensive review of all FAR clauses requiring flowdown to subcontractors," however, the requirement to flowdown the limitation of liability clauses⁴⁰ was eliminated.⁴¹

The policy remained virtually unchanged for the next 13 years. In 1996, the Information Technology Management Reform Act (ITMRA) added *information* technology to the list of contracts excluded from coverage by the policy of self-

³⁵ See ASPR 1-330(b)(1), July 1, 1974.

³⁶ See Defense Acquisition Circular 76-26, Dec. 15, 1980 (revised Limitation of Liability - Major Items clause in ASPR 7-104.45(a) for contracts and subcontracts).

³⁷ See ASPR 7-104.45(a).

³⁸ See Defense Acquisition Circular 76-40, Nov. 26, 1982, at 1:72 (revised ASPR 1-330(b)).

³⁹ See 48 Fed. Reg. 42387 (1983) (establishing the FAR).

⁴⁰ See FAR 52.246-23, 24, and 25 (FEB 1997).

⁴¹ See 61 Fed. Reg. 67425 (1996).

insurance.⁴² The Federal Acquisition Streamlining Act and the Clinger-Cohen Act of 1996 had relatively minor impact on the general policy and the associated clauses.⁴³

In the following subpart, I compare and contrast the current policy of self-insuring for post-acceptance loss or damage to high-value items to the five policy elements the Commission recommended in 1972. This will reveal how far the policy has drifted.

C. An Analysis of the Current Policy Limiting Liability for High-Value Items.

The current government policy regarding contractor liability for post-acceptance loss of or damage to government property is found at FAR 46.803. It consists of four main paragraphs including a general policy statement, specific coverage for high-value items, one exception, and three limits on the policy's applicability. Each paragraph is analyzed in turn.

1. A Government-wide Policy Statement.

Paragraph (a) of the clause applies the 1971 DOD policy statement government-wide.

- (a) General. The Government will generally act as a self-insurer by relieving contractors, as specified in this subpart, of liability for loss of or damage to property of the Government that
 - (1) occurs after acceptance of supplies delivered or services performed under a contract and

⁴² See 61 Fed. Reg. 41467, 41471 (1996) (implemented Information Technology Management Reform Act); see also Division E of Pub. L. No. 104-106 (1996); 62 Fed. Reg. 64914 (1997) (revised definition of information technology).

⁴³ See 60 Fed. Reg. 48208, 48218 (1995) (FASA changes to the Truth in Negotiations Act (TINA)); 62 Fed. Reg. 257, 259 (1997) (Clinger-Cohen Act of 1996 changes to TINA (Section 4201 of Pub. L. 104-106)).

(2) results from defects or deficiencies in the supplies or services. However, the Government will not relieve the contractor of liability for loss of or damage to the contract end item itself, except for high-value items. 44

Limited liability applies to *government* property including the end item itself, in the case of high-value items. Third-party tort liability is excluded by inference.⁴⁵ This substantially complies with the Commission's recommendation that the policy exclude third-party tort liability except as otherwise provided by indemnification legislation.⁴⁶

Limited liability does not become effective until after acceptance. Wright's Auto Repair, Inc. 47 (Wright's Auto), illustrates the point that the risk of loss does not shift until that threshold is actually crossed. In Wright's Auto, the provider of vehicle operations services at Chanute Air Force Base dispatched a driver on a taxi run using a government provided vehicle. Just prior to the driver's return, the vehicle caught fire. Based on the standard government property clause 48 holding the contractor liable for any loss or damage to government property in its possession, the contracting officer deducted \$2,675 from the contractor's payment to cover replacement cost of the destroyed vehicle. The

⁴⁴ FAR 46.803(a).

⁴⁵ See discussion of contractor third-party liability infra Part III.

⁴⁶ Indemnify is defined as "an agreement whereby one party agrees to reimburse a second party for future losses suffered by the second party." BLACK'S LAW DICTIONARY 769 (6th ed. 1990). Pub. L. No. 85-804, 72 Stat. 972 (1958) (codified at 50 U.S.C. § 1431 et seq.), gives the President authority to grant such protection to contractors whenever he deems such action would facilitate the national defense. Indemnification is a way to shift third-party liability from the contractor to the government. If the government does promise indemnification, it must be within limits of available appropriations to be enforceable. Otherwise, statutory authority is required. See generally 53 Fed. Reg. 12048 (1988) (proposal to expand agency indemnification authority).

⁴⁷ Wright's Auto Repair, Inc., ASBCA No. 30635, 86-3 BCA ¶ 19,154 (May 23, 1986).

⁴⁸ Government Property (Fixed Price) (1968 SEP). DAR 7-104.24 (A & C).

contract also contained a standard limitation of liability clause⁴⁹ for services which provided that the contractor would not be liable for loss of or damage to government property occurring after acceptance of such services. The Board, nevertheless, upheld the contracting officer's decision citing the fact that acceptance of the services had not occurred at the time of the fire.

Such a policy presupposes not only acceptance, but also the accomplishment of quality assurance before acceptance.⁵⁰ In fact, the 1972 Commission assumed the government would continue to maintain an "extensive inspection system during the manufacture and testing of the products it buys."⁵¹ Today, however, the trend is to place this responsibility for detailed inspections on the contractor and for the government to approve the contractor's inspection system.⁵²

For example, in *California Aero Dynamics Corp.* (*CAD*),⁵³ CAD was awarded a fixed-price supply contract in 1987 to produce and deliver 13 hydraulic systems reservoirs for the F-5 aircraft. The contract contained the Higher-Level Contract Quality Requirement (Government Specification) clause,⁵⁴ requiring CAD to provide and

⁴⁹ See Limitation of Liability - Service Contract (1974 APR).

⁵⁰ See FAR 46.102(c).

⁵¹ REPORT, supra note 13, at 94.

⁵² See Cibinic & Nash, Administration, supra note 1, at 811.

⁵³ California Aero Dynamics Corp., ASBCA No. 39295, 92-2 BCA ¶ 24,868 (February 28, 1992). See also Big 4 Mechanical Contractors, Inc., 77-1 BCA ¶ 12,716 (August 12, 1977) (contractor not entitled to equitable adjustment after government removed its inspectors thereby placing all quality inspection responsibilities on the contractor as originally required by the contract).

⁵⁴ See FAR 52.246-11 (APR 1984).

maintain an inspection system in accordance with MIL-I-45208A, "Inspection System Requirements." CAD had supplied 113 identical parts under a prior contract in 1984. In 1985, the government detected some weaknesses in CAD's MIL-I-45208A inspection system, which CAD corrected. The government rejected units partially manufactured under the old inspection system and CAD filed a claim for \$10,499.66, for government delay in accepting the supplies. The Board denied CAD's appeal viewing CAD's failure to follow its own inspection system as the primary cause for delay in acceptance.

This trend of relying on contractors' inspection systems has continued.55

2. Liability for the End Item Itself.

For relief from liability for the end item itself, the item must be a high-value item.

- (b) High-value items. In contracts requiring delivery of high-value items, the Government will relieve contractors of contractual liability for loss of or damage to those items. However, this relief shall not limit the Government's rights arising under the contract to --
 - Have any defective item or its components corrected, repaired, or replaced when the defect or deficiency is discovered before the loss of or damage to a high-value item occurs;
 - (2) Obtain equitable relief when the defect or deficiency is discovered after such loss or damage occurs.⁵⁶

Designation of an item as *high-value* is not automatic. The end item must have a high unit cost, normally over \$100,000 per unit,⁵⁷ and be *designated by the contracting officer*

⁵⁵ See, e.g., Section 8002 of Pub. L. No. 103-355, 108 Stat. 3243 (1994) (for commercial items, government must rely on contractor's existing quality assurance system as a substitute for compliance with government inspection unless customary market practices permit in-process inspection) [hereinafter FASA].

⁵⁶ FAR 46.803(b).

⁵⁷ See FAR 46.802(1).

as a high-value item.⁵⁸ This requires an affirmative act by the contracting officer before the government's self-insurance policy is "issued" against the end item itself.

High-value items include such deliverables as aircraft, aircraft engines, communication systems, computer systems, missiles, and ships. ⁵⁹ Items specifically excluded from self-insurance coverage are information technology, ⁶⁰ construction, ⁶¹ architect-engineer services, ⁶² and maintenance ⁶³ and rehabilitation of real property, ⁶⁴ unless these items are based on catalog or market prices ⁶⁵. ⁶⁶

The distinction between communication and computer systems and information technology, as well as the exclusion of any construction-related activities, leads to

⁵⁸ See FAR 46.802(2).

⁵⁹ See FAR 46.802.

⁶⁰ "Information technology means any equipment, or interconnected system(s) or subsystem(s) of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the agency." FAR 2.101. See id. for complete definition.

⁶¹ "Construction means construction, alteration, or repair (including dredging, excavating, and painting) of buildings, structures, or other real property." FAR 36.102. See id. for complete definition.

⁶² Architect-engineer services means "[p]rofessional services of an architectural or engineering nature performed by contract that are associated with research, planning, development, design, construction, alteration, or repair of real property." FAR 36.102. See id. for complete definition.

⁶³ See FAR 37.101 (definition of service contract para. b).

⁶⁴ See generally FAR Part 36 (construction contracting).

⁶⁵ See catalog or market price definition, supra note 11.

⁶⁶ See FAR 46.801 (items excluded from self-insurance coverage).

inference that *major systems*⁶⁷ are the primary intended beneficiary of the government's self-insurance policy. "The elements [of a major system] may include hardware, equipment, software, or any combination thereof, but exclude construction or other improvements to real property."⁶⁸

The logic behind the exclusions is not patently obvious. One could speculate that applicability of the self-insurance policy somehow relates to the uniqueness of certain military applications (e.g., missiles). One would also expect the policy's applicability to relate to sound economic analysis. A review of the literature did not reveal any such analysis supporting the inclusion of certain end items to the exclusion of others.

Be that as it may, the government did not relieve the contractor of all liability for high-value items. The government retained the rights from contract warranties, ⁶⁹ if any,

⁶⁷ "Major system means that combination of elements that will function together to produce the capabilities required to fulfill a mission need. The elements may include hardware, equipment, software, or any combination thereof, but exclude construction or other improvements to real property. A system shall be considered a major system if --

⁽a) The Department of Defense is responsible for the system and the total expenditures for research, development, test, and evaluation for the system are estimated to be more than \$115,000,000 (based on fiscal year 1990 constant dollars) or the eventual total expenditure for the acquisition exceeds \$540,000,000 (based on fiscal year 1990 constant dollars);

⁽b) A civilian agency is responsible for the system and total expenditures for the system are estimated to exceed \$750,000 (based on fiscal year 1980 constant dollars) or the dollar threshold for a "major system" established by the agency pursuant to Office of Management and Budget Circular A-109, entitled "Major System Acquisitions," whichever is greater; or

⁽c) The system is designated a "major system" by the head of the agency responsible for the system. (10 U.S.C.2302 and 41 U.S.C.403)." FAR 2.101.

⁶⁸ *Id*.

⁶⁹ "Words or conduct relevant to the creation of an express warranty and words or conduct tending to negate or limit warranty shall be construed wherever reasonable as consistent with each other." U.C.C. § 2-316(1). See also FAR Subpart 46.7 for government policy regarding the use warranties and corresponding contract clauses.

as well as the right to correction of latent defects⁷⁰ under the inspection and acceptance provisions of the contract.⁷¹ This technically satisfied the Commission's recommendation to retain such rights. The government loses the benefits of those provisions, however, if the defect or deficiency is not detected before the loss or damage occurs.

In their place, the government reserved the right to seek *equitable* relief when the defect or deficiency is discovered after the loss or damage occurs.⁷² Equitable remedies typically include specific performance⁷³ or injunctions.⁷⁴ These remedies do not seem appropriate, however, in a post-acceptance post-damage scenario.

Equivalent relief was the term used in the 1971 DOD policy statement. The term compared government remedies when the defect is discovered after loss or damage occurs to remedies available beforehand. Equivalent relief was changed to read equitable

⁷⁰ "Latent defects are defects that existed at the time of acceptance and that could not have been 'discovered by observation or inspection made with ordinary care." CIBINIC & NASH, ADMINISTRATION, supra note 1, at 868 citing ABM/Ansley Business Materials v. General Servs. Admin., GSBCA 9367, 93-1 BCA ¶ 25,246 (June 30, 1992) (emphasis added).

^{71 &}quot;(a) Standard inspection requirements are contained in the clauses prescribed in 46.302 through 46.308, and 46.310, and in the product and service specifications that are included in solicitations and contracts. (b) The clauses referred to in (a) of this section -- (1) Require the contractor to provide and maintain an inspection system that is acceptable to the Government; (2) Give the Government the right to make inspections and tests while work is in progress; and (3) Require the contractor to keep complete, and make available to the Government, records of its inspection work." FAR 46.202-3.

⁷² See FAR 46.803(b)(2).

⁷³ Specific performance means "an equitable remedy available to an aggrieved party when the party's remedy at law is inadequate, consisting of a requirement that the party guilty of a breach of contract undertake to perform or to complete performance of his or her obligations under the contract." STEVEN H. GIFIS, LAW DICTIONARY 449 (2d ed. 1984) [hereinafter GIFIS].

⁷⁴ Injunction means "a judicial remedy awarded for the purpose of requiring a party to refrain from doing or continuing to do a particular act or activity." *Id.* at 232.

relief when the policy appeared in the ASPR in 1974. The Commission did not discuss equitable remedies in its REPORT. They too, probably felt equity was not the proper form of government remedy. This is appears to be a transposition error.

3. An Exception to the Policy.

The policy singles out one exception, that "[t]he Government will not provide relief... when contractor liability can be preserved without increasing the contract price." This would seem to be a hard concept for a practitioner to apply. It is more easily understood from the perspective of whether or not a price *reduction* can be achieved in exchange for reduced contractor liability. If not, then the contractor should remain liable. This approach, of reduced prices in exchange for reduced liability, was incorporated into the government self-insurance policy for commercial items. The would seem to apply equally well to non-commercial items. This is significantly different, however, than the Commission's recommendation.

The Commission recommended excluding standard commercial items altogether. Where it is the custom of the trade to not relieve manufacturers from liability for defective products, the Commission believed the government should follow suit. 77 In other words, manufactures are typically held to a strict liability standard. Therefore, it would run contrary to public policy for the government to relieve contractors of liability

⁷⁵ FAR 46.803(c).

⁷⁶ See FAR 46.804.

⁷⁷ See REPORT, supra note 13, at 96.

for commercial items.⁷⁸ But the policy, as written, permits the government to do just that.

4. Policy Limits.

Every insurance policy has limits and the government self-insurance policy is no exception.

- (c) Limitations. Subject to the specific terms of the limitation of liability clause included in the contract, the relief provided under paragraphs (a) and (b) of this section does not apply --
 - (1) To the extent that contractor liability is expressly provided under a contract clause authorized by this regulation;
 - (2) When a defect or deficiency in, or Government's acceptance of, the supplies or services results from willful misconduct or lack of good faith on the part of the contractor's managerial personnel; or
 - (3) To the extent that any contractor insurance, or self-insurance reserve, covers liability for loss or damage suffered by the Government through purchase or use of the supplies delivered or services performed under the contract.⁷⁹

The FAR offers three limitation of liability clauses depending on the item being procured. Limitation of Liability clause ⁸⁰ applies to delivery of end items that are not high-value. Limitation of Liability -- High-Value Items clause, ⁸¹ as the title implies, applies to delivery of high-value items. Limitation of Liability -- Services clause, ⁸² as one might expect, applies to performance of services.

⁷⁸ See discussion of contractor liability infra Part III.

⁷⁹ FAR 46.803(d).

⁸⁰ See FAR 52.246-23 (FEB 1997).

⁸¹ See FAR 52.246-24 (FEB 1997).

⁸² See FAR 52.246-25 (FEB 1997).

These three substantially similar clauses parrot back the general policy. The high-value item clause includes two additional provisions. The first primarily addresses the government's remedies in the event loss or damage occurs. It requires the contractor to pay the amount it would have cost to fix the defect or deficiency if it had been discovered before the loss or damage occurred. For example, if faulty wiring caused a fire in the flight control system of an aircraft resulting in a crash and total loss of the airplane, the contractor would only be liable for what it would have cost to replace the faulty wiring. The contractor would also be liable, now, for replacing the wiring on all other similar aircraft under either a warranty or latent defect provision in the inspection and acceptance clause.

The high-value item clause also includes reference to the Warranty of Technical Data, ⁸⁴ Ground and Flight Risks or Aircraft Flight Risks, ⁸⁵ and Government Property ⁸⁶ clauses. This comes close to satisfying the Commission's recommendation to include all post-acceptance remedies in one clause. ⁸⁷ Notably excluded is the inspection and

⁸³ "(1) This clause does not diminish the Contractor's obligations, to the extent that they arise otherwise under this contract, relating to correction, repair, replacement, or other relief for any defect or deficiency in supplies delivered under this contract. (2) Unless this is a cost-reimbursement contract, if loss or damage occurs and correction, repair, or replacement is not feasible or desired by the Government, the Contractor shall, as determined by the Contracting Officer -- (i) Pay the Government the amount it would have cost the Contractor to make correction, repair, or replacement before the loss or damage occurred; (ii) Provide other equitable relief." FAR 52.246-24(d) (FEB 1997).

⁸⁴ See DFARS 252.246-7001 (DEC 1991).

⁸⁵ See DFARS 252.228-7001, 7002 (SEP 1996).

⁸⁶ See FAR 52.245 (various government property clauses).

⁸⁷ "This clause shall not limit or otherwise affect the Government's rights under clauses, if included in this contract, that cover -- (1) Warranty of technical data; (2) Ground and

acceptance provision. Thus, the contract must still be read as a whole to determine the extent of contractor liability. 88

The government also reserved its rights, under the general self-insurance policy, to exclude coverage for "willful misconduct or lack of good faith" on the part of the contractor's "managerial personnel." These terms are well-established in government contract law. "Managerial personnel" include the contractor's directors, officers, and any of the contractor's managers, superintendents, or other equivalent representatives. ⁸⁹

Excluding certain conduct by managerial personnel from the government's self-insurance policy encourages proper supervision of safety programs and is consistent with the fundamental principle that every contract carries with it the requirement of good faith and fair dealings. This is precisely what the Commission recommended. ⁹⁰ The government should not relieve contractors of liability when these principles are breached.

"Willful misconduct and lack of good faith" is more than mere negligence. The distinction was thoroughly discussed in *Fairchild Hiller Corp.* (FHC). 91 In FHC, the

flight risks or aircraft flight risks; or (3) Government property." FAR 52.246-24(e) (FEB 1997).

⁸⁸ For commercial items, FAR 52.212-4 (APR 1998), is probably more like what the Commission had in mind. It includes inspection and acceptance, risk of loss, and limitation of liability provisions all within the one clause.

⁸⁹ See DFARS 252.228-7001(d)(1) (SEP 1996).

⁹⁰ See FAR 46.803(d)(2); see also REPORT, supra note 13, at 96.

⁹¹ Fairchild Hiller Corp., ASBCA No. 14387, 72-1 BCA ¶ 9202 (November 30, 1971) [hereinafter Fairchild Hiller]. See also LTV Aerospace and Defense Co., ASBCA No. 37571, 93-3 BCA ¶ 26,248 (July 26, 1993) (under a contract for design and installation of aircraft parts, government was not entitled to recover the value of an aircraft destroyed during a test flight, because the government did not show the accident was due to willful misconduct or lack of good faith, as required for an exception to the government's assumption of the risk of loss under the contract's Ground and Flight Risk clause; at most,

negligence of a contractor's employee resulted in extensive fire damage to a C-130 aircraft. In 1968, the Air Force awarded a contract to FHC to inspect and repair C-130s. The contract contained the Ground and Flight Risk clause 12 that placed the risk of accidents on the government except in limited circumstances, one being willful misconduct or lack of good faith by contractor's managerial personnel. The contracting officer held FHC liable for damage to the aircraft amounting to \$472,702.50. The contracting officer based the claim upon contractor's managerial personnel failure to: properly train and supervise; comply with government instructions; and implement an effective safety program. The Board, however, found that the conduct of FHC's managerial personnel did not rise to the level of willful misconduct or lack of good faith. "What amounts to willful misconduct or lack of good faith is to be 'recreant' to one's duty, to refuse deliberately to perform a plain, well-understood contractual or statutory obligation without just cause or excuse."

The government's self-insurance policy, therefore, also covers loss or damage caused by contractor negligence.

5. Flowdown Provision Omitted.

Noticeably absent from the government's general policy statement is implementation of the Commission's recommendation that the limitation of liability apply equally to subcontractors. The government is perfectly capable of expressing its intent to

the facts pointed to mere negligence, which was insufficient proof of willful misconduct or lack of good faith).

⁹² ASPR 10-404(A).

⁹³ Fairchild Hiller, supra note 91.

flowdown requirements when it intends to do so. For example, the Indemnification Under 10 U.S.C. 2354 -- Fixed Price clause⁹⁴ contains an express flowdown provision agreeing to indemnify subcontractors engaged in unusually hazardous risks identified in the contract.

In fact, a flowdown provision was included in the government's self-insurance policy and associated clauses from 1974 until 1996. At that time, it was eliminated as part of a broader review of all FAR clauses requiring flowdown to subcontractors. The reasonable inference is that the government self-insurance policy is no longer intended to limit the liability of subcontractors.

D. Differences Between the 1972 Commission on Government Procurement Recommendations and Current Policy.

The government's general policy of self-insuring against loss of or damage to property of the government occurring after final acceptance and resulting from defects or deficiencies in the supplies or services, remains substantially the same today as when it was first drafted by DOD in 1971. The recommendations of the 1972 Commission were implemented and remain in effect today with three exceptions:

- (1) The policy does not provide a single post-acceptance remedy granting clause;
- (2) The policy permits coverage to potentially include standard commercial items even if it is the custom of the trade not to relieve the manufacturers from liability; and
- (3) The policy does not flowdown the limited liability coverage to subcontractors.

⁹⁴ See DFARS 252.235-7000 (DEC 1991).

⁹⁵ See historical development of policy, supra Part I.B.

Should all of the Commission's recommendations be fully implemented today given the changes in procurement policy over the years? Have these changes made the policy obsolete? Before these questions can be answered, Part II looks at some of those changes as they affect limitations on liability, for high-value items in particular.

PART II. RECENT DEVELOPMENTS AFFECTING POST-ACCEPTANCE LIABILITY

Everything changes over time. One thing the government changes most often is procurement policy. The 1972 Commission based its findings and recommendations on certain assumptions and conditions that existed at that time. Since then, things have changed. This Part looks at three fairly recent procurement policy changes and questions whether some of the Commission's assumptions still apply.

A. Increased Reliance on Commercial Items.

1. FASA.

One of the most significant changes in government procurement policy occurred just within the last five years. ⁹⁶ In 1994, Congress passed the Federal Acquisition Streamlining Act (FASA). ⁹⁷ Congress intended to streamline the procurement process, take advantage of commercial market forces, and save the government money. FASA requires procurement officials, to the maximum extent practicable, to acquire commercial

⁹⁶ See Dr. Steven Kelman, Buying Commercial: An Introduction and Framework, 27 Pub. Cont. L.J. 2, 249 (1998) (overview of streamlining initiatives).

⁹⁷ FASA, *supra* note 55.

items⁹⁸ and require prime contractors and subcontractors to incorporate commercial items as components⁹⁹ of items supplied to the agency.¹⁰⁰

Since market research is essential for understanding of the commercial marketplace, ¹⁰¹ FASA also required agencies to conduct market research before developing new specifications and before soliciting bids or proposals in excess of the simplified acquisition threshold. ¹⁰² Market research should be appropriate to the circumstances. ¹⁰³ At a minimum, it should include "customary practices including warranty, buyer financing, discounts, etc., under which commercial sales of the product are made," among other requirements. ¹⁰⁴

⁹⁸ Commercial item includes: "(a) Any item, other than real property, that is of a type customarily used for nongovernmental purposes and that -- (1) Has been sold, leased, or licensed to the general public; or, (2) Has been offered for sale, lease, or license to the general public; (b) Any item that evolved from an item described in paragraph (a) of this definition through advances in technology or performance and that is not yet available in the commercial marketplace, but will be available in the commercial marketplace in time to satisfy the delivery requirements under a Government solicitation." Section 8001 of FASA, supra note 33; see also FAR 2.101 for the complete definition of commercial items.

⁹⁹ "Component means any item supplied to the Federal Government as part of an end item or of another component." FAR 2.101.

¹⁰⁰ See Section 8104 of FASA, supra note 55 (codified at 10 U.S.C. § 2377(b) (1999)).

¹⁰¹ See S. Rep. No. 50, 98th Cong., 2d Sess. (1984), cited in John Cibinic, Jr. & Ralph C. Nash, Jr., Formation of Government Contracts 322 (3d ed. 1998) [hereinafter Cibinic & Nash, Formation].

¹⁰² See Section 8104 of FASA, supra note 55 (codified at 10 U.S.C. § 2377(c) (1999)).

¹⁰³ See FAR 10.001(a)(2).

¹⁰⁴ See FAR 10.002(b)(1)(iii).

Market research is the "key to pricing without needing further (specifically cost) data." Otherwise, requirements of the Truth in Negotiations Act (TINA)¹⁰⁶ could frustrate the purpose of buying commercially in the first place. The affects of TINA are discussed in the following subpart.

2. TINA.

TINA, as amended by FASA and the Clinger-Cohen Act of 1996, requires contractors on procurements, other than sealed-bid, over \$500K, to submit "cost or pricing data" unless an exception applies. Cost or pricing data" are facts that a prudent buyer or seller would reasonably expect to affect price negotiations significantly. One exception to the submission of "cost or pricing data" is the purchase of commercial items.

Even with commercial items, however, contracting officers must determine that the price is reasonable. 110 In the absence of adequate price competition, this may require

¹⁰⁵ Joseph F. Volk, *Practical Applications of Market Research in Government Contracting*, CONTRACT MANAGEMENT, November 1998, at 17.

¹⁰⁶ 10. U.S.C. § 2306a.

¹⁰⁷ See 10 U.S.C. § 2306a(a)(1)(A); 62 Fed. Reg. 257 (1997); Pub. L. No. 104-106 (1996). See also Robert T. Ebert, "Commercial Item" Acquisitions: A Primer on the New Pricing & Accounting Rules, CP&A REPORT, December 1997, at 3.

¹⁰⁸ See 10 U.S.C. § 2306a(h) (implemented at FAR 15.401).

¹⁰⁹ "Contracts for the acquisition of commercial items which are sold in 'substantial quantities' to the general public, for which the price agreed upon is based on established catalog or market prices, shall not require the submission of cost or pricing data." 10 U.S.C. § 2306a(b)(1)(A)(ii).

¹¹⁰ See FAR 15.403-4 and 15.403-1(b).

the submission of *information other than cost or pricing data*¹¹¹ in accordance with FAR 15.403-3. "[S]uch information may include pricing, sales, or cost information..." Thus, if the government wanted to negotiate a reduced price for a commercial item offering to limit contractor liability for loss of or damage to government property occurring after acceptance, the contracting officer must determine a reasonable price for the item minus the built-in cost to cover potential liabilities. 113

The loss or damage history associated with a particular commercial item or the cost of insurance to cover the liability are facts that a prudent buyer would expect to have a significant affect on the ultimate negotiated price. Submission of *information other* than cost or pricing data, ¹¹⁴ therefore, may be required in order to determine a reasonable price for the item.

3. Application of Limited Liability.

While FAR 52.212-4(p) contains a limitation of liability provision for commercial items, it is substantially different than the limitation of liability for high-value items.

¹¹¹ "Information other than cost or pricing data means any type of information that is not required to be certified in accordance with 15.406-2 and is necessary to determine price reasonableness or cost realism." FAR 15.401 (emphasis added).

¹¹² FAR 15.401.

¹¹³ "The government must be aware that all warranties are borne into the unit price, as it is effectively taking out product insurance to cover prospective defects or failures. As the so-called product insurer, the seller must set the scope for recovery and the price associated for each level of coverage tailored to a product." James Friedlander, Contract Terms for Simplified Acquisitions of Commercial and Noncommercial Items, Contract Management, April 1999, at 25 [hereinafter Friedlander].

¹¹⁴ See definition of information other than cost or pricing data, supra note 111.

FAR 52.212-4(p) excludes only consequential damages¹¹⁵ (e.g., loss of use) resulting from defects or deficiencies in accepted items. Contracting officers may tailor the clause to exclude actual damages to government property including the end item in exchange for a corresponding price reduction.¹¹⁶

As the number of commercial items purchased above the simplified acquisition threshold 117 increases, the number of high-value items being procured also goes up. It follows then, that the number of high-value items qualifying for the government's self-insurance policy consists increasingly of commercial items. Therefore, one would expect the parties to include the clause at FAR 52.246-24, Limitation of Liability -- High-Value Items.

The additional protection provided by this clause may be particularly attractive to contractors who enjoyed limited liability afforded by only providing items built to government mandated design specifications.

B. Preference for Performance Specifications.

While FASA encouraged the acquisition of commercial items and market research, the Act did not dictate the type of specification the government should use to

¹¹⁵ Consequential damages are "those damages which are caused by an injury but which are not a necessary result of the injury." GIFIS, supra note 73, at 114.

¹¹⁶ See Friedlander, supra note 113, at 29.

¹¹⁷ Simplified acquisition threshold means "\$100,000, except that in the case of any contract to be awarded and performed, or purchase to be made, outside the United States in support of a contingency operation (as defined in 10 U.S.C.101(a)(13)) or a humanitarian or peacekeeping operation (as defined in 10 U.S.C.2302(7) and 41 U.S.C.259(d)), the term means \$200,000." FAR 2.101.

satisfy its needs once known. ¹¹⁸ It was growing increasingly difficult to keep thousands of unique military specifications attuned to normal commercial practices. In 1994, Defense Secretary William Perry issued a DOD policy mandating greater use of performance ¹¹⁹ and commercial specifications. ¹²⁰ "[T]he shift...to commercial specifications may require successful offerors to assume substantially greater levels of performance risk when the commercial specification is performance-oriented." ¹²¹

This policy shift also affected the availability of two legal theories government contractors traditionally relied on to limit their risk exposure--"implied warranty of specification" and "government contractor" defense.

¹¹⁸ See CIBINIC & NASH, FORMATION, supra note 101, at 348.

¹¹⁹ "Performance specifications: 'set forth an objective or standard to be achieved, and the successful bidder is expected to exercise his ingenuity in achieving that objective or standard of performance, selecting the means and assuming a corresponding responsibility for that selection.'" Blake Constr. Co. v. United States, 987 F.2d 743, 744 (Fed. Cir. 1993) (quoting J. L. Simmons Co. v. United States, 188 Cl. Ct. 684, 412 F.2d 1360, 1362 (Ct. Cl. 1969), cited in CIBINIC & NASH, FORMATION, supra note 101, at 348 (emphasis added).

[&]quot;Military Specifications and Standards: Performance specifications shall be used when purchasing new systems, major modifications, upgrades to current systems, and nondevelopmental and commercial items, for programs in any acquisition category. If it is not practicable to use a performance specification, a non-governmental standard shall be used. Since there will be cases when military specifications are needed to define an exact design solution because there is no acceptable non-government standard or because the use of a performance specification or non-government standard is not cost effective, the use of military specifications and standards is authorized as a last resort, with an appropriate waiver." Memorandum for Secretaries of the Military Departments (June 29, 1994), cited in CIBINIC & NASH, FORMATION, supra note 101, at 348.

¹²¹ CIBINIC & NASH, FORMATION, supra note 101, at 355.

1. Implied Warranty of Specification.

"It is a well established precept of government contract law that the government warrants the specifications that it contractually promulgates." This "implied warranty of specification" protects contractors who comply with government mandated design specifications. 123

The seminal case, *United States v. Spearin* (*Spearin*), ¹²⁴ involved the construction of a dry dock at the Brooklyn Navy Yard in accordance with specifications provided by the government. The specifications included reconstructing a sewer that intersected the site. A dam in a connecting sewer, not shown on government plans or blueprints, caused the sewer to backup and break under pressure during a heavy downpour coincident with high tide. Spearin refused to proceed unless the government assumed responsibility for the damage. The government annulled the contract instead. The United States Supreme Court affirmed the decision of the Court of Claims: "[T]he insertion of the articles prescribing the character, dimensions and location of the sewer imported a warranty that, if the specifications were complied with, the sewer would be adequate."

¹²² Ehlers-Noll, GMBH v. United States, 34 Fed. Cl. 494, 499 (1995), citing United States v. Spearin, 248 U.S. 132, 136, 39 S. Ct. 59, 61, 63 L.Ed. 166 (1918); Blount Brothers Corp. v. United States, 872 F.2d 1003 (1989); Hol-Gar Mfg. Corp. v. United States, 175 Ct. Cl. 518, 360 F.2d 634 (1966) (defective specifications constitute constructive changes); Big Chief Drilling Co. v. United States, 26 Cl. Ct. 1276 (1992) (defects in specifications result in breach of an implied warranty).

[&]quot;Design specifications...describe in precise detail the materials to be employed and the manner in which the work is to be performed." Dredging Co. v. United States, 834 F.2d 1576, 1582 (Fed. Cir. 1987) cited in CIBINIC & NASH, FORMATION, supra note 101, at 350 (emphasis added).

¹²⁴ United States v. Spearin, 248 U.S. 132 (1918) [hereinafter Spearin].

¹²⁵ Id. at 137 (emphasis added).

In other words, *Spearin* stands for the proposition that whoever has control over the process that resulted in the defect or deficiency also bears responsibility for the consequences, unless explicitly modified by contract. The natural consequence of the government's breach of the implied warranty is responsibility for increased costs associated with the omissions, errors, and deficiencies in its specifications and drawings. ¹²⁶

The key issue is whether the government required the contractor to use the specification. ¹²⁷ To recover under the implied warranty of specifications, the contractor must prove that it reasonably relied upon the defective specifications and complied fully with them. ¹²⁸ In addition, the contractor must show that the defective specifications caused increased costs. ¹²⁹

If, instead, the specification establishes performance objectives allowing the contractor to select the means of achieving those objectives, then there is no implied warranty. The government is not liable for increased costs in achieving performance requirements unless such requirements are objectively impossible or commercially

 $^{^{126}}$ See Geo-Con, Inc., ENGBCA No. 5749, 94-1 BCA \P 26,359 (December 15, 1995) [hereinafter Geo-Con].

¹²⁷ See id., supra note 82.

¹²⁸ See Al Johnson Constr. Co. v. United States, 854 F.2d 467 (Fed. Cir. 1988); see also Gulf & Western Precision Eng'g Co. v. United States, 543 F.2d 125 (Ct. Cl. 1976); Mega Constr. Co. v. United States, 29 Fed. Cl. 396 (1993); Bart Associates, Inc., EBCA No. 9211144, 96-2 BCA ¶ 28479 (August 5, 1996); Santa Fe Eng'rs, Inc., ASBCA No. 25549, 82-2 BCA ¶ 15,982 (July 30, 1982).

 $^{^{129}}$ See Chaparral Indus., Inc., ASBCA No. 34396, 91-2 BCA \P 23,813, aff'd, 975 F.2d 870 (Fed. Cir. 1992).

impracticable. ¹³⁰ Thus, the increased use of performance specifications ¹³¹ shifts more responsibility and risk to the contractor. It may also reduce the availability of the *government contractor* defense.

2. The Government Contractor Defense.

The courts have limited government contractors' liability by allowing them to step into the shoes of the sovereign in certain circumstances. This legal concept is known as the *government contractor* defense and is derived from the common law notion that the king can do no wrong. The courts have reasoned that when contractors perform discretionary functions on the sovereign's behalf, based on considerations of public policy, they should share the sovereign's immunity. The courts have reasoned that when contractors perform discretionary functions on the sovereign's behalf, based on considerations of public policy, they should share the sovereign's immunity.

¹³⁰ See Blount Brothers Corp. v. United States, 872 F.2d 1003 (Fed. Cir. 1989).

¹³¹ "These labels merely help the court discuss the discretionary elements of a contract. It is the obligations imposed by the specification which determines the extent to which it is 'performance' or 'design,' not the other way around." Blake Constr. Co. v. United States, 987 F.2d 743, 746 (Fed. Cir. 1993) cited in CIBINIC & NASH, FORMATION, supra note 101, at 349-350. See also definitions of performance and design specifications, supra notes 119 and 123.

¹³² "While the political theory that the King could do no wrong was repudiated in America, a legal doctrine derived from it that the Crown is immune from any suit to which it has not consented was invoked on behalf of the Republic and applied by our courts as vigorously as it had been on behalf of the Crown. As the Federal Government expanded its activities, its agents caused a multiplying number of remediless wrongs --wrongs which could have been actionable if inflicted by an individual or a corporation but remediless solely because their perpetrator sometimes was an officer or employee of the Government." Feres, Executrix, v. United States, 340 U.S. 135, 139, 71 S. Ct. 153, 156 (1950) [hereinafter Feres].

¹³³ See generally Jonathan Glasser, The Government Contract Defense: Is Sovereign Immunity a Necessary Prerequisite?, 52 BROOKLYN L. REV. 495 (1986) (examines government contract defense in context of Agent Orange litigation).

The Federal Tort Claims Act (FTCA)¹³⁴ waived sovereign immunity for injury or death caused by the negligent or wrongful act or omission of any government employee acting within the scope of their employment. However, the *discretionary function* exception prohibits any claim based upon the exercise or failure to exercise a discretionary function.¹³⁵ A *discretionary function* involves the permissible exercise of policy judgment.¹³⁶ The United States Supreme Court concluded that Congress intended to shield only those discretionary decisions based on considerations of public policy.¹³⁷

Plaintiffs have attempted to come in through the "back door" by suing in tort the manufacturer of the item that caused their injury. The manufacturer would then crossclaim against the government for indemnity. In *Stencel Aero Engineering Corp. v. United States (Stencel)*, ¹³⁸ a National Guardsman was severely injured when the egress life-support system of his F-100 malfunctioned. He sued the United States and Stencel, the manufacturer of the ejection system, who had manufactured the system in accordance

^{134 28} U.S.C. §§ 1346(b), 2671 et seq.

¹³⁵ See 28 U.S.C. § 2680(a). See generally Harold J. Krent, Preserving Discretion Without Sacrificing Deterrence: Federal Governmental Liability in Tort, 38 UCLA L. REV. 871 (1991) (re-examines discretionary function exception to the FTCA).

¹³⁶ See Berkovitz v. United States, 486 U.S. 531, 537 (1988) [hereinafter Berkovitz]. See generally D. Scott Barash, The Discretionary Function Exception and Mandatory Regulations, 54 U. CHI. L. REV. 1300 (1987) (traces history of discretionary function exception to the FTCA).

¹³⁷ See Berkovitz, supra note 89, at 537 (quoting United States v. S.A. Empresa de Viacao Aerea Rio Grandense (Varig Airlines), 467 U.S. 797, 814 (1984)).

¹³⁸ Stencel Aero Engineering Corp. v. United States, 431 U.S. 666 (1977) [hereinafter Stencel].

with government-furnished specifications. The Court applied the *Feres* doctrine¹³⁹ holding the United States was not liable to indemnify the manufacture for damages that an off-duty serviceman could not recover from the United States directly.¹⁴⁰

Protection under *Feres* and *Stencel* was extended to government contractors by the Court in *Boyle v. United Technologies Corp.* (*Boyle*). ¹⁴¹ In *Boyle*, a Marine copilot was killed after his helicopter crashed in the ocean and the escape hatch failed to open. His estate sued the helicopter manufacturer. The Court remanded the case for clarification, but held that manufacturers who meet a three-part test are entitled to a *government contractor* defense: (1) the United States approved reasonably precise specifications; (2) the equipment conformed to those specifications; and (3) the supplier warned the United States about dangers in the use of the equipment that were known to the supplier but not to the United States. ¹⁴² Thus, contractors who meet this test are protected from tort liability for military personnel injured incident to service, as well as civilians suing for injury resulting from a qualifying exercise of a discretionary function.

¹³⁹ Feres doctrine stands for the proposition that the government is not liable to military personnel for injury occurring incident to service. See Feres, supra note 132.

¹⁴⁰ See Stencel, supra note 138.

¹⁴¹ Boyle v. United Technologies Corp., 792 F.2d 413 (4th Cir. 1986), vacated, 487 U.S. 500, on remand, 857 F.2d 1468 (4th Cir.), cert. denied, 488 U.S. 994 (1988), reh'g denied, 489 U.S. 1047 (1989) [hereinafter Boyle].

¹⁴² See id., supra note 94, 487 U.S. at 512. See generally Terrie Hanna, The Government Contract Defense and the Impact of Boyle v. United Technologies Corporation, 70 B.U. L. REV. 691 (1990) (examines elements of government contractor defense as developed in Boyle); cf. David E. Seidelso, From Feres v. United States to Boyle v. United Technologies Corp.: An Examination of Supreme Court Jurisprudence and a Couple of Suggestions, 32 DUQ. L. REV. 219 (1994) (traces history of Boyle criticizing Supreme Court's rationale).

Increased reliance on performance and commercial specifications by the government may be eroding a contractor's ability to successfully survive an attack on the first prong of the *Boyle* test. For example, the plaintiffs in *Trevino v. General Dynamics Corp.* (Trevino), argued the signature of a government employee on each blueprint or drawing for a diver lock-in/lock-out system for a Navy submarine did not satisfy the "approval" prong of *Boyle*. The Fifth Circuit, upholding the district court's ruling favorable to the plaintiff, concluded that "approval" under Boyle requires more than a "rubber stamp" of the design features. The government exercises its discretion over the design when it actually chooses a design feature. The government delegates the design discretion when it buys a product designed by a private manufacturer... "146

^{143 &}quot;[A] government employee[']s mere rubber stamp or acceptance of the contractor's working drawings does not establish the first element of the Boyle defense. Instead, the contractor must show that a team-like effort existed in all communications between the contractor and the government, with the government providing general specifications and approval at various stages of project development...Often a contractor will purchase an item off the shelf, that a private manufacturer designed and produced in advance. Under these circumstances, the government has neither used discretion in the design nor approved the design of the product, and consequently the contractor would not be protected...Leaving the "means to the end" in the manufacturer's hands will usually penetrate the first element of the Boyle defense." Charles E. Cantu and Randy W. Young, The Government Contractor Defense: Breaking the Boyle Barrier, 62 ALB. L. REV. 403 (1998), at 420-21 [hereinafter Cantu & Young], citing Trevino v. General Dynamics Corp., 865 F.2d 1474, 1479-80 (5th Cir. 1989); Boyle v. United Technologies Corp., 792 F.2d 413, 414 (4th Cir. 1986); Myron P. Papadakis, Understanding the Military Contract Defense - What The Justice Meant to Say, (June 3, 1995) (Aviation Law Section Meeting, State Bar of Texas) (offering that when the government purchases a product off the shelf, the government's lack of involvement in product design indicates that the contractor would not be free of liability).

¹⁴⁴ Trevino v. General Dynamics Corp., 865 F.2d 1474 (5th Cir. 1989) cited in Cantu & Young, supra note 143, at 423.

¹⁴⁵ See Cantu & Young, supra note 143, at 424.

¹⁴⁶ Id. citing Trevino, supra note 144, at 1480.

The government is increasingly likely to delegate design discretion to contractors not only because of increased reliance on commercial items, but also in light of a significant reduction in the acquisition workforce to perform the functions themselves.

C. A Leaner Acquisition Workforce.

There are fewer government employees overseeing the acquisition process today than in 1972. Together, the National Defense Authorization Acts for Fiscal Years 1996 and 1997 required a total reduction of 30,000 in the acquisition workforce by October 1, 1997 from the October 1, 1995 level. 147 The Secretary of Defense was also required to submit a plan reducing the overall acquisition workforce by 25 percent over a 5-year period beginning on October 1, 1995 for a total reduction of 94,400 (out of 377,600). 148 As of a 1997 GAO report, DOD was on track to meet or exceed those numbers having already cut 50,334. 149 As a result, the Commission's assumption that the government can ensure quality and reliability are built-in to high-value items up-front through extensive inspections is no longer valid.

1. More Cuts.

In November 1997, Congress passed the Defense Acquisition Workforce Act

(DAWA)¹⁵⁰ calling for a reduction of 25,000 in the acquisition workforce by October 1,

¹⁴⁷ See Defense Acquisition Organizations: Reductions in Civilian and Military Workforce, at 1-2 (GAO/NSIAD-96-238, October 23, 1997) [hereinafter Reductions].

¹⁴⁸ See id.

¹⁴⁹ See id. at 3.

¹⁵⁰ Pub. L. No. 105-85, 111 Stat. 1860 (1997) [hereinafter DAWA]. Not to be confused with the Defense Acquisition Workforce Improvement Act (DAWIA), Pub. L. No. 101-510 (1990).

1998, unless the Secretary of Defense certified to Congress that the number of reductions would be "inconsistent with the cost-effective management of the defense acquisition system." DAWA also called for a "review of the organizations and functions of the [DOD] acquisition activities and personnel required to carry out those functions." Among the items to be included in the review was identification of "[a]lternative methods for performing industry oversight and quality assurance," and "[a]lternative acquisition infrastructure reduction options within current authorities."

Dr. Jacques Gansler¹⁵⁵ testified before Congress on October 8, 1998, and indicated that there was approximately an 18,000 acquisition workforce reduction in 1998 and approximately 19,000 planned for 1999.¹⁵⁶ In the same hearing, United States Representative Duncan Hunter (R-CA) cited a \$53,000 savings for each "shopper" that was cut.¹⁵⁷ Multiplying that figure times the 94,400 projected cuts by October 1, 2000, would result in a \$5 billion annual savings. Rep. Hunter rightly points out that such cuts

¹⁵¹ Id., subsection (a).

¹⁵² Id., subsection (d).

¹⁵³ *Id.*, subsection (d)(6).

¹⁵⁴ *Id.*, subsection (d)(8).

¹⁵⁵ Undersecretary of Defense for Acquisition and Technology.

¹⁵⁶ Joint Hearing On Department of Defense Modernization Before Subcommittees On Military Procurement and Research and Development, FDCH Political Transcripts (October 8, 1998) [hereinafter Hearing] (statement of Dr. Gansler, Undersecretary of Defense for Acquisition and Technology).

¹⁵⁷ Id. (statement of U.S. Representative Duncan Hunter).

"could fund many weapons systems." But as Rep. Herbert H. Bateman (R-VA) commented, "you don't modernize with theoretical savings." Those savings may never be realized depending on the impact of a substantially smaller acquisition workforce.

2. The Impact.

Rep. Hunter's comments assume that the 94,400 "shoppers" were not valued added to the process. His comments also discount the negative cost impact of having 25 percent fewer "shoppers" to oversee the procurement process. Assuming arguendo that: (1) productivity of the remaining 75 percent does not increase to offset the loss; and (2) the procurement workload in terms of number of actions and/or dollars remains substantially unchanged or, more likely, increases, then it is reasonable to expect one of two results. Either the remaining workforce will have to increase its productivity by 25 percent, or the length of time to process procurements, already a lengthy process, will increase. The hope is that streamlining initiatives in automation, government-wide acquisitions, and commercial practices, to name a few, will make-up for the loss in personnel.

Whether or not these initiatives are successful in completely offsetting the loss in procurement personnel remains to be seen. To a certain degree, the impact will depend

¹⁵⁸ Id. (statement of U.S. Representative Duncan Hunter) (emphasis added).

¹⁵⁹ Id. (statement of U.S. Representative Herbert H. Bateman).

¹⁶⁰ "[I]t would be unwise to have fewer people without also changing business practices. Without changing business practices, fewer people will simply mean slower performance..." Melanie I. Dooley, DOD Aiming to Cut Acquisition Workforce by 20,000, Close More Bases, Hamre Says, 69 FCR 17, 466 (1998) (comment by John Hamre, Deputy Defense Secretary, addressing Washington, D.C., chapter of the National Defense Industrial Association).

on the caliber of the remaining 75 percent of the acquisition workforce. At least in the short run, it is reasonable to expect that either procurement will take longer to execute, or procurement personnel will execute the transactions more hurriedly.

The forces of the commercial marketplace, to a certain degree, can serve as an equalizing force to help compensate for loss in government acquisition personnel. That is to say, government "shoppers" are not searching for the best commercial values in isolation. Other shoppers in the commercial marketplace force sellers to be more innovative and competitive in their products and prices. Government "shoppers" should likewise insist on as good or better values. This, of course, requires knowledge of the marketplace. Thus, market research by government "shoppers" is crucial to success of the streamlining initiatives. ¹⁶²

But "shoppers" include more than just buyers. The 25 percent reduction in the acquisition workforce¹⁶³ will also affect the number of auditors, inspectors, quality

¹⁶¹ Some might argue that the reductions helped separate the wheat from the chaff. But no empirical data was found to support this theory.

[&]quot;Although market research is the first step in any commercial item acquisition, there is no indication that DOD has adequately trained its acquisition workforce or tailored its infrastructure to effectively conduct market research." REPORT OF THE DEFENSE SCIENCE BOARD ACQUISITION WORKFORCE SUB-PANEL OF THE DEFENSE ACQUISITION REFORM TASK FORCE ON DEFENSE REFORM (March 1998) cited in Defense Advisory Panel Urges Restructuring R&D, Shrinking Acquisition Workforce, 69 FCR 19, 529 (1998).

¹⁶³ Acquisition workforce is defined as "The personnel component of the acquisition system. The acquisition workforce includes permanent civilian employees and military members who occupy acquisition positions, who are members of an Acquisition Corps, or who are in acquisition development programs." DODI 5000.58, Defense Acquisition Workforce (Jan. 13, 1996). Acquisition position categories include: "Program management; Program management oversight; Communication-computer systems; Contracting (to include contracting for construction); Purchasing (to include procurement assistant); Industrial property management; Business, cost estimating & financial management; Auditing; Quality assurance; Manufacturing & production; Acquisition

assurance personnel, administrative contracting officers, and other government in-plant representatives. The 1972 Commission's recommendations were based on the existence of a sizable procurement workforce to oversee every phase of an acquisition. This included an elaborate inspection and acceptance process through which the government derived confidence that quality would be built in to a product up-front. Since the government had significant input and control over the pre-acceptance production process, it could afford to take on more of the post-acceptance risk of loss.

D. An Argument for Shifting More Risk to the Contractor.

As discussed *supra* Part I.C.1, the government now requires contractors to perform most of the quality control functions on their own, reserving the right to conduct inspections. Increased reliance on commercial items also reduces the government's burden to maintain unique government standards as well as the need for personnel to ensure the standards are met. Likewise, the preference for performance specifications takes more design responsibility away from the government. These initiatives shift more of the work and control over pre-acceptance processes to contractors and help offset reductions in the acquisition workforce.

The government's self-insurance policy for post-acceptance loss of or damage to government property, however, was based on a risk allocation scheme utilizing higher acquisition workforce staffing levels, especially for high-value items. Given the government's reduced ability to assure itself before acceptance that a high-value item will

logistics; Systems planning, research, development & engineering; Test & evaluation engineering; Education, training & career development." *Id.*

 $^{^{164}}$ See discussion of the 1972 Commission's inspection system assumptions, supra Part I.C.1.

meet its quality and reliability requirements, arguably more of the risk should be shifted to the contractor who has the ability to control those risks. This would be consistent with *Spearin*.

Before an assessment is made as to the need to reallocate post-acceptance risk of loss for high-value items, however, one must understand the risk allocation mechanisms operating in the commercial marketplace. This includes an appreciation for the liability faced by the assemblers of these high-value items, and their component part manufacturers.

PART III. POST-ACCEPTANCE LIABILITY OF ASSEMBLERS AND MANUFACTURERS OF COMPONENT PARTS

Manufacturers placing goods in the stream of commerce must account for the risks that the goods may not perform as intended, or may cause harm to person or property whether they perform as intended or not. These risks could be reduced, or at least management of them improved, "if commercial buyers were compelled to rely exclusively on the contract remedies of the [Uniform Commercial Code]." But, the parties often exclude or add to the remedies provided in the U.C.C. or pursue alternative theories of liability (i.e., torts).

This Part reviews a seller's general post-acceptance obligations as outlined in the U.C.C., then considers more specific theories of liability confronted by assemblers and manufacturers of component parts.

¹⁶⁵ William K. Jones, *Product Defects Causing Commercial Loss: The Ascendancy of Contract over Tort*, 44 U. MIAMI L. REV. 731, 758 (1990) [hereinafter Jones].

A. Sellers' Commercial Obligations as Set Forth in the U.C.C.

The Federal Acquisition Regulations are a detailed set of policies, procedures, and contract clauses governing virtually every aspect of government procurement. In contrast, the U.C.C. is a model set of rules in covering virtually every legal aspect of commercial transactions. Since the U.C.C. is not federal law, its place in federal procurement is not well understood. Nevertheless, the U.C.C. is likely to play an increasing role in the acquisition of commercial items by the government through the law of precedence and art of persuasion.

For example, while "under a government contract, no implied warranties are automatically incorporated," FASA does require contracting officers to take advantage

¹⁶⁶ See FAR 1.101.

¹⁶⁷ The U.C.C. is not federal law. "Four drafts of the U.C.C. were prepared by a committee of lawyers. Each state legislature decided which draft, or portions of a draft, to adopt. Further, since the U.C.C. is state law, in disputes it is interpreted by the state courts, resulting in differing interpretations of the provisions from state to state. Therefore, the U.C.C. is not uniform." Corey Rindner, *Can Government Really Contract Commercially*, CONTRACT MANAGEMENT, November 1998, at 6 [hereinafter Rindner]. For ease of discussion, the model code is used herein.

¹⁶⁸ Daniel R. Peterson, *Government Procurement & the UCC*, CONTRACT MANAGEMENT, November 1998, at 8 [hereinafter Peterson].

¹⁶⁹ See id. at 9. See generally Kathryn Dean Checchi, Federal Procurement and Commercial Procurement under the U.C.C. — A Comparison, 11 PUB. CONT. L. J. 358 (1980) (compares federal procurement to commercial procurement in five major areas of contract law).

¹⁷⁰ Peterson, supra note 168, at 9.

¹⁷¹ Rindner, supra note 167, at 7.

of commercial warranties to the maximum extent practicable in the acquisition of commercial items. ¹⁷² This includes both express and implied warranties. ¹⁷³

The parties may agree to provide for remedies in addition to or in substitution of those provided in the U.C.C. and may limit damages. These express warranties are created by any affirmation of fact or promise relating to the goods and becomes part of the basis of the bargain. This includes any description of the goods or any sample or model. No particular form of expression or specific intent to make a warranty is required.

If these express or implied warranties are breached, acceptance may be revoked within a reasonable period of time after the buyer discovers or should have discovered a non-conformity that substantially impairs the item's value and it was accepted on the

¹⁷² See FAR 12.404(b).

The U.C.C.'s implied warranties of merchantability and fitness for a particular purpose are now specifically identified and defined in the FAR. "The implied warranty of merchantability provides that an item is reasonably fit for the ordinary purpose for which such items are used. The items must be of at least average, fair or medium-grade quality and must be comparable in quality to those that will pass without objection in the trade or market for items of the same description." FAR 12.404(a)(1) (emphasis added); see also U.C.C. § 2-314 (1978). "The implied warranty of fitness for a particular purpose provides that an item is fit for use for the particular purpose for which the Government will use the items. The Government can rely upon an implied warranty of fitness for particular purpose when -- (i) The seller knows the particular purpose for which the Government intends to use the item; and (ii) The Government relied upon the contractor's skill and judgment that the item would be appropriate for that particular purpose." FAR 12.404(a)(2) (emphasis added); see also U.C.C. § 2-315 (1978).

¹⁷⁴ U.C.C. § 2-719(1)(a) (1978).

¹⁷⁵ U.C.C. § 2-313(1)(a) (1978).

¹⁷⁶ U.C.C. § 2-313(1)(b)-(c) (1978).

¹⁷⁷ U.C.C. § 2-313(2) (1978).

reasonable belief that the non-conformity would be cured or was accepted without discovery of the non-conformity because of difficulty to discover or by seller's assurances. Once the buyer gives the seller notice of non-conformity, he may recover reasonable damages resulting from the seller's breach. The measure of damages for breach of warranty is the difference between the value of the goods accepted and the value they would have had if they were as warranted.

Courts and administrative boards cited the U.C.C. as guidance in government contract cases even before the passage of FASA. ¹⁸¹ For example, in Newport News Shipbuilding and Drydock Co. (Newport News), ¹⁸² the ENGBCA

¹⁷⁸ U.C.C. § 2-608 (1978).

¹⁷⁹ U.C.C. § 2-714(1) (1978).

¹⁸⁰ U.C.C. § 2-714(2) (1978). "A breach of warranty may result in product failure so complete as to render the product worthless, or the breach may cause an accident that results in the destruction of the product. In either case, the proper measure of damages is the cost of replacement ('the value the goods would have had if they had been as warranted'). If the product can be rehabilitated after either a breakdown or accident, the proper measure of damages is the cost of repair (a good proxy for the diminution in value caused by the product's deficiency). U.C.C. § 2-714(2). Physical damage to other tangible property, such as damage to work-in-progress or damage to adjacent equipment, can be recovered as 'injury to... property proximately resulting from [the] breach of warranty.' Recovery can be had without regard to whether the damage is inflicted by product failure or by an accident triggered by the product's deficiency. U.C.C. § 2-715(2)." Jones, *supra* note 107, at 735.

¹⁸¹ See, e.g., The Garrity Co., ASBCA No. 12174, 67-2 BCA ¶ 6586 (September 15, 1967) (Board applied U.C.C. § 2-607 to breach of warranty claim); J. P. Davenport Co., ASBCA No. 14661, 70-2 BCA ¶ 8458 (September. 2, 1970) (Board applied U.C.C. § 2-719 finding government limitation of liability provision valid); General Maint. & Engr'g Co., ASBCA No. 14691, 71-2 BCA ¶ 9124 (October 14, 1971) (Board clarified non-applicability of U.C.C. to non-personal services contracts).

¹⁸² Newport News Shipbuilding and Drydock Co., ENGCA No. 3117, 72-1 BCA ¶ 9210 (December 1, 1971), cited in Joseph Summerill and Todd Bailey, The Use of UCC-Implied Warranties in Public Contracts, CONTRACT MANAGEMENT, November 1998, at 14.

used the concepts of implied warranties to decide responsibility for correction of defects discovered after expiration of the warranty. Newport News was awarded a contract to design, manufacture, and deliver four 45,500 horsepower hydraulic turbines in accordance with specified performance criteria. Excessive vibration in the connecting shafts was discovered after the turbines were erected and placed in operation, a year after the express warranty expired. The contracting officer determined the cause of the vibration to be a latent defect and ordered Newport News to correct it at no charge. After extensive tests resulting in advancement of the state of the art, Newport News corrected the problem. Newport News then appealed the contracting officer's final decision seeking compensation for work performed. Citing the U.C.C., the Board found that in such a supply type contract the seller impliedly warrants the turbines, including the various component parts thereof, to be suitable for the intended use. The Board, however, held that at the time of contract formation, the solution to the vibration problem was beyond the state of the art and the implied warranty did not extend beyond it. 183

When the government agrees to limit a contractor's liability for loss of or damage to a high-value item resulting from defects or deficiencies in the item itself, it waives many of these remedies otherwise available at law. The government theoretically does so because it can absorb the risk more efficiently than assemblers or their component part subcontractors. It may, however, be

¹⁸³ See Id.; see also Transit Products Co, Inc., ENGBCA No. 4796, 88-2 BCA ¶ 20,673 (April 15, 1988) (Board denied motion to dismiss Washington Metropolitan Area Transit Authority claim for breach of implied warranties of merchantability and suitability for a particular purpose of rail fasteners).

more efficient to allow assemblers and component part manufacturers, with relatively equal bargaining strength, to allocate risk of loss between themselves.

This theory is explored further in the following two subparts.

B. Allocation of Risk between Commercial Parties of Relatively Equal Bargaining Strength.

Despite the U.C.C.'s extensive treatment of risk allocation in sales transactions, commercial buyers frequently bring actions in tort arguing strict liability. Three public policy reasons for enforcing strict liability include: (1) enforcement insures the costs of injuries resulting from defective products are borne by those best able to distribute the risk by insuring against it, rather than by the injured persons powerless to protect themselves; (2) it presumes to have a deterrent effect upon product manufacturers by encouraging them to produce safer products, and (3) it eliminates the necessity of proving negligence, which is often an insurmountable barrier to injured plaintiffs. However, these same public policy reasons do not apply to a commercial setting between parties

¹⁸⁴ "In an action in tort, neither privity nor notice to the manufacturer is required. The requirement of foreseeability may also be relaxed... The statute of limitations will run from the time of loss rather than from the time of delivery... Most importantly for present purposes, warranty disclaimers and limitations on remedy may be disregarded by courts in tort cases..." Jones, *supra* note 165, at 745-46.

¹⁸⁵ Victor E. Schwartz and Patrick W. Lee, *Product Liability of the Aviation Component Part Manufacturer: A Proposal To Reduce Transaction Costs*, 13 TRANSP. L. J. 393, 406 (1984) [hereinafter Schwartz & Lee]. "Product liability is based on the assumption that the manufacturer, as an expert in his field, has greater access to information regarding product safety than does the consumer and, due to this expertise, is in a better position to assess product dangers and to take steps to assure safety. Hence, the imposition of liability on product manufacturers is justifiable both as an efficient allocation of society's resources and as a means of deterring the introduction of unsafe products into the marketplace, by placing responsibility for those products upon those who are best able to assure their safety." *Id.* at 394-95.

with relatively equal bargaining strength who negotiate over the risk of loss from potential product defects.

Kaiser Steel Corp. v. Westinghouse Electric Corp. (Kaiser Steel)¹⁸⁶ involved a defect in the welding of motor rivets, the destruction of which caused a portion of Kaiser's steel manufacturing plant to shut down. Kaiser sued for lost profits, alleging strict liability among other theories. The court concluded that the doctrine of strict liability did not apply: "Since the manufacturer and buyer have bargained...not only for the product but... measure and mode of reimbursement for defects in the product, any special social interest in loss shifting is absent." ¹⁸⁷ The court furthered reasoned that, "[w]hether the loss is thrust initially upon the manufacturer or customer, it is ultimately passed along as a cost of doing business... and thus spread over a broad commercial stream." ¹⁸⁸

Similarly, in *Delta Air Lines, Inc. v. Douglas Aircraft Co.* (*Delta*), ¹⁸⁹ Delta purchased a new DC-7 airplane at a price of \$2.25 million. When a nose wheel collapsed, Delta brought an action for breach of warranty against the manufacturer to recover for damages sustained. Delta claimed Douglas was negligent, but an exculpatory clause in the warranty excused Douglas in the event of negligence. The court ruled in favor of Douglas:

¹⁸⁶ Kaiser Steel Corp. v. Westinghouse Electric Corp., 55 Cal. App. 3d 737 (February 25, 1976) [hereinafter Kaiser Steel], cited in Jones, supra note 107, at 755-56.

¹⁸⁷ Id. at 748, cited in Jones, supra note 165, at 755-56.

¹⁸⁸ Id.

¹⁸⁹ Delta Air Lines, Inc. v. Douglas Aircraft Co., Inc., 238 Cal. App. 2d 95, 47 Cal. Rptr. 518 (November 9, 1965) [hereinafter Delta].

Under the contract before us, Delta (or its insurance carrier if any) bears that risk in return for a purchase price acceptable to it; had the clause been removed, the risk would have fallen on Douglas (or its insurance carrier if any), but in return for an increased price deemed adequate by it to compensate for the risk assumed. We can see no reason why Delta, having determined, as a matter of business judgment, that the price fixed justified assuming the risk of loss, should now be allowed to shift the risk so assumed to Douglas, which had neither agreed to assume it nor been compensated for such assumption. 190

In addition to equal bargaining power, assemblers and component part manufacturers generally have the requisite expertise, or can retain experts who do, necessary to prove negligence or discover the root of a product's defect. Moreover, the possibility of strict product liability tort action still exists for injuries to third-parties.

Thus, the incentive for manufacturers to produce safer products remains in effect. 192

In East River Steamship Corp. et al. v. Transamerica Delaval, Inc. (East River Steamship), 193 the United States Supreme Court agreed that contract law, not tort law, was best suited to resolve commercial controversies between parties setting the terms of their own agreement when damage was limited to the defective product itself. 194 Thus, the Court did not focus on the public policy considerations associated with tort law, but instead on the economic loss suffered as result of the product defect.

In that case, Seatrain Shipbuilding Corp. (Shipbuilding), a shipbuilder, contracted with Transamerica Delaval Inc. (Delaval) to design, manufacture, and supervise the

¹⁹⁰ *Id. cited in* Jones, *supra* note 165, at 756-57.

¹⁹¹ See Schwartz & Lee, supra note 185, at 406.

¹⁹² See id.

¹⁹³ East River Steamship Corp. et al. v. Transamerica Delaval, Inc., 476 U.S. 858, 106 S. Ct. 2295 (1986) [hereinafter East River Steamship].

¹⁹⁴ See id., 476 U.S. at 872-73, 106 S. Ct. at 2303.

installation of turbines for four oil-transporting supertankers. Upon completion of the supertankers and installation of the turbines, East River Steamship Corp. (East River Steamship) and three other companies each chartered one of the four supertankers. The turbines subsequently malfunctioned because of defects in design and installation. The charter companies sued Delaval in strict liability and negligence for repair costs and lost income while the ships were inoperable. The United States Court of Appeals for the Third Circuit affirmed the district court's decision in favor of the turbine manufacturer holding that, "damage to a defective product is not actionable in tort unless the design defect creates an unreasonable risk of, and results in, harm to persons or property other than the product itself." 195

The United States Supreme Court affirmed:

Even when the harm to the product itself occurs through an abrupt, accident-like event, the resulting loss due to repair costs, decreased value, and lost profits is essentially the failure of the purchaser to receive the benefit of its bargain -- traditionally the core concern of contract law. 196

The United States Supreme Court also pointed out that "all but the simplest machines have component parts." Most, if not all, high-value items today consist of component parts, many of which are not made by the final assembler. In an aircraft, for example, the final assembler is usually the airframe manufacturer (e.g., Lockheed-Martin, Boeing-McDonald Douglas). The airframe manufacturer typically builds and assembles

¹⁹⁵ 752 F.2d 903 (CA3 1985), cited in East River Steamship, supra note 193, 476 U.S. at 862, 106 S. Ct. at 2297.

¹⁹⁶ East River Steamship, supra note 193, 476 U.S. at 872-73, 106 S. Ct. at 2303, cited in Jones, supra note 165, at 750-52.

¹⁹⁷ Id., 476 U.S. at 867, 106 S. Ct. at 2300.

much of the airframe itself, including the fuselage and wings. Component part manufacturers, however, supply many of the components to the airframe manufacturer for final assembly and integration into the overall operation of the aircraft. Some of these components include: altimeters, engines, navigational instruments, electronic and hydraulic systems, etc. ¹⁹⁸ Component part manufacturers are faced with many of the same liability issues as final assemblers but are not in the same position to control how their product will ultimately be used or by whom. Thus, the law affords them some additional protection as discussed in the following subpart.

C. Common Law Limitations on Component Part Manufacturer Liability.

In government procurement, component part manufacturers are typically subcontractors with whom the prime contractor, or final assembler, has contracted. The component part manufacturer may simply provide a certain piece of equipment (e.g., landing gear) or get involved in integration of the component into the ultimate end item (e.g., airplane). The government may also contract with the component supplier directly and provide the item as government furnished property (GFP). This is often the case with jet engines.

Once the component is integrated into the ultimate end item, whether provided as GFP or contracted for directly by the prime, determining liability for loss of or damage to the end item can become difficult and costly for all parties concerned. Two defenses

¹⁹⁸ See Schwartz & Lee, supra note 185, at 394.

¹⁹⁹ Government-furnished property means "property in the possession of, or directly acquired by, the Government and subsequently made available to the contractor." FAR 45.101.

have proved successful in limiting the liability of component part manufacturers. They are the *component part defense* and the *sophisticated purchaser doctrine*.²⁰⁰

1. Component Part Defense.

This doctrine shields manufacturers of inherently safe component parts from liability when their parts are incorporated into a finished product that the component part manufacturer did not build or design. ²⁰¹ It is too early to predict how the new RESTATEMENT (THIRD) OF TORTS ²⁰² will affect component part manufacture's liability, but in the past, courts have considered the following factors:

[1] whether the manufacturer designed the component part for use in a specific end product; [2] whether the component part is a safe, multi-use "building block" used to make finished products which have societal value; [3] whether another entity adapted the component part to manufacture an end product; and [4] whether the component part's specialized end use creates the danger, or whether there is a defect in the component part itself.²⁰³

²⁰⁰ See Brett W. Roubal, Protecting Suppliers of Safe Component Parts and Raw Materials Through the Component Part Doctrine and the Sophisticated Purchaser Doctrine: In Re Temporomandibular Joint (TMJ) Implants Products Liability Litigation, 31 CREIGHTON L. REV. 617, 625 (February 1998) [hereinafter Roubal].

²⁰¹ Id. at 625-26.

The new RESTATEMENT (THIRD) OF TORTS specifically addresses liability of component part manufacturers. According to the RESTATEMENT, component part manufacturers are liable in tort to third parties harmed by their products when the components they sell are defective *and* the defect causes the harm. See RESTATEMENT (THIRD) OF TORTS § 5(a) (1998). Component part manufacturers are also liable to third parties harmed by the item into which their component is integrated when they participate substantially in the integration of the component into the design of a product and the integration of the component causes the product to be defective resulting in harm. See RESTATEMENT (THIRD) OF TORTS § 5(b) (1998).

²⁰³ Roubal, *supra* note 200, at 625.

"If the component part or raw material satisfies all of these factors, courts have consistently held that the component part supplier is not liable for any defect in the end product."²⁰⁴

In Shipco, Inc. v. Avondale Shipyards, Inc. (Shipco), 205 Shipco, another tanker chartering company, sought recovery of repair costs from Avondale, the shipbuilder, and AEG, the designer of the steering system. The need for repairs was caused by propeller blades breaking off which in turn damaged the rudder and line shaft assembly. The district court entered judgment in favor of Avondale and AEG. The issue presented on appeal was whether Avondale or AEG were liable in tort due to vices in construction.

The Court of Appeals for the Fifth Circuit relied on the holding in *East River Steamship* "that a manufacturer in a commercial relationship has no duty under a negligence or strict products-liability theory to prevent a product from injuring itself." Shipco argued, however, that the resultant damage to other ship components caused by the steering system was damage to "other property," not the product itself. Shipco argued further, that "*East River* recognizes a purchaser's right to recover economic loss resulting from damage to the product, in tort, when the defect in the product causes damage to other property."

 $[\]frac{1}{204}$ *Id.* at 625-26.

²⁰⁵ Shipco, Inc., and SPC Shipping, Inc. v. Avondale Shipyards, Inc., and Allegemeine Elektricitats Gasellschaft Telefunken, 825 F.2d 925 (5th Cir. 1987) [hereinaster Shipco].

²⁰⁶ Id. at 927, citing East River Steamship, supra note 193, 106 S. Ct. at 2302.

²⁰⁷ Shipco, supra note 205, at 928.

The Court was not persuaded and determined the vessels were the "product," not the individual components. ²⁰⁸ Moreover, the Court saw no reason to give buyers greater rights of recovery simply because components were provided by someone other than the final manufacturer. ²⁰⁹ Even if the component part manufacturer were held liable in tort, they would likely seek indemnification or contribution from the assembler of the final product. The result would be to "visit ultimate tort liability for defects in the vessel on the manufacturer and seller and would nullify the objective of *East River* to limit the seller's liability in this type case to that assumed by contract. "²¹⁰

Component part manufacturers' liability to purchasers of the ultimate end item, as well as third parties, then, is limited. Purchasers of end items consisting of defective components, are limited to whatever contractual remedies they negotiated with the seller. Additional limits on component part manufacturers' liability are provided by the sophisticated purchaser doctrine.

²⁰⁸ See Shipco, supra note 205, at 928. While not analyzed further in this thesis, one could potentially analogize between the Court's definition of a product and domestic end products as defined in FAR 25.101. A domestic end product means "...(b) an end product manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. (In determining if an end product is domestic, only the end product and its components shall be considered)..." See FAR 25.101 for complete definition.

²⁰⁹ See Shipco, supra note 205, at 929.

²¹⁰ Id. at 930. See also Continental Airlines, Inc. v. Goodyear Tire & Rubber Co., et al., 819 F.2d 1519 (9th Cir. 1987) (reversed and remanded for consideration of whether airplane manufacturer's exculpatory clause bars purchaser's claims against tire manufacturers for destruction of the airplane, and injury and death to some passengers, resulting from tire blowouts o takeoff).

2. Sophisticated Purchaser Doctrine.

This doctrine allows manufacturers of component parts to rely on the expertise of assemblers to convey to the end user warnings regarding any product dangers. This defense is based on the facts that: (1) component part manufacturers are most often not experts in the end product or familiar with the end-use applications; (2) component part manufacturers often lack information regarding the interrelationship of the component parts to each other and to the finished product; (3) due to this lack of knowledge, component part manufacturers generally do not have the ability to foresee and assess product risks; (4) even assuming that the component part manufacturer is able to identify product dangers, he often has no contact with the ultimate user of the product, thus his opportunity to warn the ultimate purchaser of any hazards is limited; and (5) component parts often pass through the hands of a number of parties before reaching the ultimate purchaser making causation difficult to prove.

For example, in *Eda Ariglio et al. v. General Electric Co.* (*Ariglio*), ²¹³ the court determined that GE, a supplier of silicone used in breast implants, owed no duty of care to the eventual recipients of the implants. GE successfully argued that the implant manufacturers were sophisticated buyers and had the ability to determine the safety of its implants. The court cited two leading cases that represent the sophisticated purchaser

²¹¹ See Roubal, supra note 200, at 622.

²¹² See Schwartz & Lee, supra note 185, at 395-99.

²¹³ Eda Ariglio et al. v. General Electric Co., 61 Cal. App. 4th 830, 71 Cal. Rptr. 2d 817 (February 20, 1998) [hereinafter Ariglio].

doctrine, Walker v. Stauffer Chemical Corp. (Walker)²¹⁴ and In re TMJ Implants Products Liability Litigation (TMJ).²¹⁵

Walker, a tenant of property owned by co-defendant Mueller, was injured as a result of the explosion of a drain cleaning product consisting of sulfuric acid. The sulfuric acid was obtained from Stauffer and another chemical company. Walker sued Stauffer, among others. The court did not believe it was necessary for protection of the public to require raw material or component suppliers, "not having control over the subsequent compounding, packaging or marketing of an item eventually causing injury to the ultimate consumer, to bear responsibility for that injury."

The Ariglio court also cited TMJ for the proposition that even if the component part manufacturer could foresee the risk of the finished product, it is irrelevant. TMJ involved the supplier of Teflon used in manufacturing temporomandibular jaw (TMJ) implants, as well as everything from bearings in jet aircraft to non-stick surfaces on frying pans. Despite successful clinical trials and FDA approval, the material in the TMJ implants eventually broke down into particles. The implants were removed from the market and recipients of the implants filed suit against the manufacturer and Dupont alleging design defects and failure to warn.

²¹⁴ Walker v. Stauffer Chemical Corp., 19 Cal. App. 3d 669, 96 Cal. Rptr. 803 (August 26, 1971) [hereinafter Walker].

²¹⁵ In re TMJ Implants Products Liability Litigation, 97 F.3d 1050 (8th Cir. 1996).

²¹⁶ Ariglio, supra note 213, 61 Cal. App. 4th at 838, 71 Cal. Rptr. 2d at 821, citing Walker, supra note 214, 19 Cal. App. 3d at 674.

The district court ruled that Dupont owed no duty to implant recipients under the component part supplier doctrine, and even assuming a duty was owed to warn recipients, Dupont discharged its duty under the sophisticated purchaser doctrine.

These same principles apply to component parts of complex, high-value items. "This is particularly true with aviation components such as aircraft engines, which are frequently removed and re-installed in aircraft by airline personnel themselves..." Without proof that the component part manufacturer caused the damage, it is unfair to impose liability. ²¹⁸

For example, Goldsmith v. Martin Marietta Corp. ²¹⁹ involved a fluxgate compass caging switch designed to give aircraft navigators correct directional information, undistorted by magnetic influences or the angle of attack of the aircraft. Bendix Corp. (Bendix) designed the device but did not manufacture it. Survivors of deceased passengers killed in a crash of an airplane with such a switch on board sued Bendix. The switch, which was not original equipment on the aircraft, was inadvertently activated while the plane was in a turn. This resulted in temporarily incorrect directional information, which was relied upon by the crew during the fateful instrument landing. ²²⁰

In its manual, Bendix warned against the navigational hazards created by the incorrect positioning of the fluxgate and suggested that the switch box be located where

²¹⁷ Schwartz & Lee, supra note 185, at 405.

²¹⁸ Id.

²¹⁹ Goldsmith v. Martin Marietta Corp., 211 F. Supp. 91 (D. Md. 1962) [hereinafter Goldsmith], cited in Schwartz & Lee, supra note 185, at 399.

²²⁰ See Goldsmith, supra note 219, at 93.

the likelihood of accidental operation would be minimal. The box on this particular aircraft was installed at the same location as the automatic pilot controls where the likelihood of accidental operation was increased. Thus, the court concluded that Bendix was not liable.

In other words, component part manufacturers are afforded a certain degree of limited liability by virtue of their position in the stream of commerce. Yet, despite the fact that the flowdown provision of the limitation of liability clauses was deleted in 1996, the government continues to provide limited liability to these subcontractors.

For example, the F-22 Production Representative Test Vehicles (PRTV) contract includes FAR clause 52.246-24, Limitation of Liability -- High-Value Items, as well as a special flowdown provision in Section H for those subcontractor items with unit cost greater than or equal to \$100,000.²²¹ But the clause contains no guarantee that an appropriate price reduction will be negotiated in exchange for the limited liability.²²² While the F-22 flowdown provision is consistent with the 1972 Commission's recommendation to include subcontractors in limitation of liability coverage, the

[&]quot;The Contractor is authorized, without any requirement for additional approval, to flowdown to its subcontractors limitation of liability as provided in SECTION I contract clauses FAR 52.246-23 Limitation of Liability (Feb 1997) and FAR 52.246-24 Limitation of Liability -- High Value Items (Feb 1997) Alternate I (Apr 1984); provided however, that 52.246-23 is only flowed down for those subcontractor items with a unit cost less than \$100,000.00 and 52.246-24 is only flowed down for those subcontractor items with a unit cost greater than or equal to \$100,000.00." Contract No. F33657-97-C-0030, Section H, Clause H-018, Subcontractor Flowdowns, Subparagraph (b).

The Price Negotiation Memorandum (PNM) may reveal, however, that such negotiations actually did occur. (PNM is the document the contracting officer includes in the contract file to record the principal elements of the negotiated agreement). See FAR 15.406-3.

coverage should only be extended where it is cost effective to do so. This is true for final assemblers as well as component part manufacturers.

D. A "Shopper's" Need to Understand Commercial Risk Allocation.

If the government's commercial streamlining initiatives are to be successful, contracting professionals must be more than mere experts in federal procurement regulations. They must also have a working knowledge of the U.C.C.'s express and implied warranty provisions as well as other rights and obligations of commercial parties imposed by common law. This is especially true if the parties are negotiating allocation of post-acceptance risk of loss.

Several courts have ruled that where the issue is not compensation for harm to a third-party, but the allocation of risk between two commercial parties, strict liability is inapplicable because either party is equally able to perform the risk spreading function. Negotiated contracts and insurance permit the parties involved in manufacturing process to assign responsibility among themselves in accordance with the most efficient allocation of resources. This is true for contracts between assemblers and component part manufacturers as well as contracts between the government and assemblers of high-value items.

"[I]t will generally be the case that the assembler is the cheapest cost avoider by virtue of his greater ability to learn of the hazardous conditions and prevent it from

²²³ See Peterson, supra note 168, at 11.

²²⁴ See Schwartz & Lee, supra note 185, at 397.

²²⁵ See id. at 397.

occurring."²²⁶ But the government's general policy of self-insuring against loss of or damage to high-value items that occurs after acceptance resulting from defects or deficiencies, runs contrary to this proposition. The rote application of the limitation of liability clauses and accompanying flowdown provisions fails to consider limited liability already provided at law. Extension of the coverage without the knowledge of how to assign the proper value to the reduced risk results in inefficient use of government resources.

PART IV. GOVERNMENT VERSUS CONTRACTOR POST-ACCEPTANCE LIABILITY: CONSIDERATIONS OF RELATIVE COST

Contracting officers are delegated the responsibility for deciding whether or not it makes good business sense to shift additional risk of loss to the government for loss of or damage to high-value items. In order to make an informed decision, contracting officers should make a comparison of the costs relative to contractor versus government acceptance of that risk. The calculations are fairly straightforward, however, determining the value of the variables is more difficult.

This Part examines some of the factors that affect a contracting officer's decision to limit the liability of a contractor or subcontractor.

A. Loss of or Damage to Property Other Than the End Item.

While this paper is primarily concerned with limited liability for high-value end items, the government self-insurance policy does cover loss of or damage to other government property regardless of the value of the item causing it. This policy is consistent with the premise that the buyer is in the best position to insure against loss of

²²⁶ Id. at 397 n. 8.

or damage to its own property. Looking at this aspect of the policy will shed light on deciding when to extend the policy coverage to the end item itself.²²⁷

The seller typically has limited knowledge of the value of the buyer's property as well as the risks associated with the buyer's business. These are two significant factors for establishing insurance premiums. Premium calculations are illustrated in the following example.

Assume that a machine has a probability of failure of .001 (despite all cost-justified quality control measures)...In A's business, a machine failure will cause losses of \$5,000; in B's business, the losses will be \$50,000; and in C's business, the losses will be \$500,000. If the manufacturer sells the same number of machines to A, B, and C, it would have to charge a premium of \$185 per machine to cover the risks assumed ((\$555,000 x .001)/3).

The \$185 premium is excessive for A and B who would end up subsidizing C's operations.²³¹

One solution would be to charge A a \$55 premium, B a \$50 premium, and C a \$500 premium. But such a pricing scheme requires the manufacturer to have detailed knowledge of each buyer's business as well as the value of their property. It also requires

The issue of loss of or damage to government property other than the end item itself was also considered by the 1972 Commission. See REPORT, supra note 13, at 91.

²²⁸ See Jones, supra note 165, at 764-65.

[&]quot;The standard casualty policy protects the buyer from losses associated with accidents caused by product failures, without segregation of risks or charges." See Jones, supra note 165, at 764-65.

²³⁰ Id. at 766.

²³¹ See id.

²³² See id.

the buyer to have detailed knowledge about the item's probability of failure. Otherwise, the buyer would be ignorant of the reasonable amount it should pay for the premium.

It is much more efficient for the manufacturer to sell its product with no premium for such contingencies allowing the buyer to obtain the appropriate level of insurance at a premium reflective of their property value. This approach also avoids unnecessary litigation over seller's liability that can consume substantial resources and increase transaction costs. ²³⁴

For the government, it is unreasonable to expect commercial sellers, many whom are already reluctant to do business with the government, to become experts in the valuation of government property. Such knowledge would be necessary to calculate the appropriate premium. The government could include a maximum liability amount in its solicitations. Contracting officers would still have a difficult time, however, determining (1) what government property was at risk and (2) its value. Likewise, contracting officers would have to become proficient in calculating probabilities of failure, assuming they had the raw data from which to extract the calculations. The alternative of setting one price for the item and having other buyers, with less property loss exposure, subsidize the government purchase is unacceptable as a matter of public policy.

Therefore, for loss of or damage to government property other than the end item itself, the government policy of self-insurance is the best approach and is consistent with general risk allocation principles in the commercial marketplace. It does not require subsidy by other commercial buyers and it avoids unnecessary transaction costs.

²³³ See id.

²³⁴ See id. at 765.

This does not hold true for the end item itself.

B. Loss of or Damage to the End Item Itself.

Converse to the proposition that the buyer is in the best position to know and insure against risk of loss to its own property, the seller is usually in the best position to provide a remedy of repair or replacement of the item itself.²³⁵ If the loss or damage occurs as a result of a product defect or deficiency, the seller "has the advantage of knowing its own product [and] has the benefits of specialization and perhaps economies of scale."²³⁶

If the seller remains liable for loss of or damage to the end item, the seller's motivation to manufacture a more reliable product remains in tact. Naturally, the cost of reliability will be reflected in the item's price in three ways:

- (1) product quality must be monitored to reduce the number of product failures;
- (2) a reserve must be accumulated (or an equivalent liability assumed) to compensate buyers for defects that occur despite improved quality control; and
- (3) transaction costs are incurred in processing warranty claims²³⁷
 Assuming the price of the item is in excess of \$100,000, the government would want to negotiate a price equal to the *actual price of the end item*, including built-in reliability costs discussed above, *minus* all or a portion of those *built-in reliability costs*. If the

²³⁵ See id. at 764-65.

²³⁶ *Id.* at 764-65.

²³⁷ *Id.* at 764.

government extends the limited liability and still pays full price for the end item, then the contractor receives a windfall.

On the other side of the coin, say the government actually experiences loss of or damage to the end item. The government would only want to extend limited liability coverage to the contractor if the government's actual losses were less than the contractor's built-in reliability costs. Otherwise, it would be more economically efficient to pay the premium and let the contractor manage the risk of loss.

Take the following hypothetical for example: Assembler AIR Plane Co. (AIR) manufactures a commercial aircraft and sells it at a price of \$1 million, which includes \$170,000 for contingent liability based on historic probabilities of failure. The fair price for the government to pay for the aircraft, in exchange for limited liability for the end item itself, is \$830,000.

Simple market research, however, is unlikely to yield the level of cost data and corporate loss experience information needed by a contracting officer to prepare for such negotiations. Even the 1972 Commission had difficulty obtaining this level of detail. ²³⁸ If the Commission, consisting of senators, congressmen, and corporate executives had difficulty, it is unlikely that contracting officers would have better luck.

Such a negotiated approach necessitates the submission of *information other than* cost or pricing data in accordance with TINA, as discussed in supra Part II.A.2. If such negotiations are pursued, it behooves both parties to ensure that the permanent record reflects the negotiated outcome so years later, liability can be determined in the event of loss of or damage to the end item.

²³⁸ "However, we have been unable to obtain detailed data on specific types and amounts of coverage. REPORT, *supra* note 13, at 95.

This task becomes even more challenging at the component part level.

C. Loss or Damage at the Component Part Level.

As discussed *supra* Part I, the current policy for limiting liability for suppliers of high-value items does not include subcontractors. If it did, either the contracting officer would have to make the types of calculations just described, or they would have to rely on the primes to negotiate the reductions on the government's behalf and pass the savings along. Today's high-value items such as aircraft consists of hundreds, if not thousands, of component parts many of which qualify as high-value items. The government has less insight into subcontractors' quality control than it does in its primes'. Thus, with the decrease in the acquisition workforce, it is unrealistic to expect that "appropriate" reductions will be calculated, let alone negotiated by the government.

Assemblers and their component part subcontractors are much better situated than the government to allocate risk of loss between themselves. They can take into account long-term business interests, loss experience, as well as *component part* and *sophisticated purchaser* defenses in negotiating risk of loss and modifying rights and obligations as provided in the U.C.C. Such terms could include indemnification provisions, express warranties, and/or disclaimers.

CONCLUSION

In Washington, the recent political trend (which shows no signs of abating) advocates federal budget deficit reduction through decreased government expenditure. It is therefore befitting at this time to explore new, less-costly means of achieving the same ends traditionally pursued by government.²³⁹

The government has embarked on several acquisition streamlining initiatives over the last few years. These initiatives include, but are not limited to, increased reliance on commercial items, preference for performance specifications, and reduction in the acquisition workforce.

As a result of these initiatives, the government has shifted more liability to the contractor. This increased liability is in the form of fewer defenses to design and manufacturing defects, more responsibility for inspection and detection of product defects and deficiencies, and increased reliance on express and implied warranties.

The natural and probable consequence of these actions is increased prices.

Potential price increases, however, are offset by savings from reductions in government procurement infrastructure as well as efficiencies gained through operation of commercial market forces.

The recommendations of the 1972 Commission on Government Procurement could not foresee the acquisition workforce reductions or the large-scale cultural shift to commercial items. But the Commission's recommendation to exclude standard commercial items, where it is the custom of the trade not to relieve the manufacturer from liability, is consistent with the government goal of mirroring the commercial marketplace

²³⁹ Jeffrey M. Jakubiak, *Maintaining Air Safety at Less Cost: A Plan for Replacing FAA Safety Regulations with Strict Liability*, 6 CORNELL J. L. & PUB. POL'Y 421 (Winter, 1997).

and more in line with an acquisition workforce of 94,400 fewer "shoppers." This approach would also contribute to the DAWA goals of identifying alternative methods for performing industry oversight and quality assurance and alternative acquisition reduction options within current authorizations.

The forces of the commercial marketplace, to a certain degree, can serve as an equalizing force to help compensate for loss in government acquisition personnel, but only if those forces are understood and allowed to operate freely. Consequently, market research by government "shoppers" is crucial to success of the streamlining initiatives.

But market research alone is unlikely to yield the level of detail necessary to engage in meaningful discussions over risk of loss allocation. The manufacturer has the greatest access to product performance and safety information and is in a better position to minimize loss of or damage to the end item. Nevertheless, the current policy as written places a heavy burden on contracting officers to negotiate appropriate reductions in exchange for limited liability for high-value items and runs counter to awarding without discussions and minimizing cost or pricing data.

Therefore, the government's current self-insurance policy would be greatly improved if it fully implemented the Commission's recommendation to exclude standard commercial items, not just allowing for appropriate price reductions. Nevertheless, if the parties do enter into such negotiations, it would be prudent to ensure that the permanent record reflects the negotiated outcome so years later, liability can be determined in the event of loss of or damage to the end item.

The current policy also does not include coverage for subcontractors, despite the Commission's recommendation to the contrary. Special provisions authorizing the

flowdown of limited liability to subcontractors, however, are sometimes included in highvalue item contracts. But these clauses do not distinguish commercial items and contain no guarantee that an appropriate price reduction will be negotiated in exchange for the limited liability with savings passed on to the government.

These component part subcontractors already enjoy a fair degree of protection provided by the U.C.C. and the courts. Moreover, component part manufacturers are free to bargain with assemblers for additional rights and exclusions, including indemnification. Where the law does hold sellers of defective products liable, the government should not interfere unless national defense interests are at stake. In which case, indemnification statutes provide the necessary remedies and approvals.

The commissioning of an empirical study would be extremely beneficial in determining whether or not self-insuring against loss of or damage to high-value items actually is the most cost-effective means of allocating risk of loss. In the alternative, the FAR Council is properly situated to reconsider the 1972 Commission's recommendations in light of today's acquisition environment.

In addition to the changes discussed herein, the Council should increase the \$100,000 threshold for high-value items. The examples of high-value items in the FAR are *major systems*. If the primary target of the government self-insurance policy is indeed major systems, then the thresholds should match. On procurements of that size, contracting officers are more likely to conduct life cycle cost analysis and obtain cost or pricing data, or at least information other than cost or pricing data. Thus, calculating appropriate reductions for limited liability is more feasible.

²⁴⁰ See major system definition, supra note 67.

Finally, the Council should make two additional administrative changes: (1) change "equitable" remedies to read "equivalent" remedies at FAR 46.803(b)(2); and (2) change "catalogue or market prices" with "commercial items" at FAR 46.804(b).

TABLE OF AUTHORITIES

UNITED STATES SUPREME COURT

Berkovitz v. United States, 486 U.S. 531 (1988):pg. 31
Boyle v. United Technologies Corp., 792 F.2d 413 (4 th Cir. 1986), vacated, 487 U.S. 500, on remand, 857 F.2d 1468 (4 th Cir.), cert. denied, 488 U.S. 994 (1988), reh'g denied, 489 U.S. 1047 (1989):
East River Steamship Corp. et al. v. Transamerica Delaval, Inc., 476 U.S. 858,
106 S.Ct. 2295 (1986):pp. 46, 47, 50
Feres, Executrix, v. United States, 340 U.S. 135, 71 S.Ct. 153 (1950): pp. 30, 32
Stencel Aero Engineering Corp. v. United States, 431 U.S. 666 (1977): pp. 31, 32
United States v. S.A. Empresa de Viacao Aerea Rio Grandense, 467 U.S. 797 (1984):pg. 31
United States v. Spearin, 248 U.S. 132, 39 S. Ct. 59, 63 L.Ed. 166 (1918):pg. 28
FEDERAL CIRCUIT COURTS
Al Johnson Construction Co. v. United States, 854 F.2d 467 (Fed. Cir. 1988): pg. 29
Blake Construction Co. v. United States, 987 F.2d 743 (Fed. Cir. 1993): pp. 27, 30
Blount Brothers Corp. v. United States, 872 F.2d 1003 (Fed. Cir. 1989): pp. 28, 30
Continental Airlines, Inc. v. Goodyear Tire & Rubber Co., et al., 819 F.2d 1519 (9th Cir. 1987):pg. 51
Dredging Co. v. United States, 834 F.2d 1576 (Fed. Cir. 1987):
Shipco, Inc., and SPC Shipping, Inc. v. Avondale Shipyards, Inc., and Allegemeine Elektricitats Gasellschaft Telefunken, 825 F.2d 925 (5 th Cir. 1987):
In re TMJ Implants Products Liability Litigation, 97 F.3d 1050 (8th Cir. 1996): pg. 53
Trevino v. General Dynamics Corp., 865 F.2d 1474 (5th Cir. 1989):pg. 33

FEDERAL DISTRICT COURTS

Goldsmith v. Martin Marietta Corp, Goldsmith v. Martin Marietta Corp., 211 F.Supp. 91 (D. Md. 1962):pg. 54
COURT OF FEDERAL CLAIMS
Big Chief Drilling Co. v. United States, 26 Cl. Ct. 1276 (1992):pg. 28
Ehlers-Noll, GMBH v. United States, 34 Fed. Cl. 494 (1995):
Gulf & Western Precision Engineering Co. v. United States, 543 F.2d 125 (Ct. Cl. 1976):
Hol-Gar Manufacturing Corp. v. United States, 175 Ct.Cl. 518, 360 F.2d 634 (1966):pg. 28
J. L. Simmons Co. v. United States, 188 Cl. Ct. 684, 412 F.2d 1360 (Ct. Cl. 1969): .pg. 27
Mega Constr. Co. v. United States, 29 Fed. Cl. 396 (1993):pg. 29
STATE COURTS
Australia v. Lockheed Aircraft Corp, Australia v. Lockheed Aircraft Corp., No. 69-1623-WPG (Cal. Cent. Dist. Ct., Complaint filed Aug. 18, 1969):
Delta Air Lines, Inc. v. Douglas Aircraft Co., Inc., 238 Cal.App.2d 95, 47 Cal.Rptr. 518 (November 9, 1965):
Eda Ariglio et al. v. General Electric Co., 61 Cal.App.4 th 830, 71 Cal.Rptr.2d 817 (February 20, 1998):
Kaiser Steel Corp. v. Westinghouse Electric Corp., 55 Cal. App.3d 737 (February 25, 1976):
Walker v. Stauffer Chemical Corp., 19 Cal. App.3d 669, 96 Cal. Rptr. 803 (August 26, 1971):
BOARD OF CONTRACT APPEALS
ABM/Ansley Business Materials v. General Servs. Admin., GSBCA 9367, 93-1 BCA ¶ 25,246 (June 30, 1992):
Bart Associates, Inc., EBCA No. 9211144, 96-2 B.C.A. ¶ 28479 (August 5, 1996):pg. 2

	Big 4 Mechanical Contractors, Inc., 77-1 B.C.A. ¶ 12,716 (August 12, 1977): p	g.	11
	California Aero Dynamics Corp., ASBCA No. 39295, 92-2 B.C.A. ¶ 24,868 (February 28, 1992):	g.	11
	Chaparral Industrial, Inc., ASBCA No. 34396, 91-2 B.C.A. ¶ 23,813, aff'd, 975 F.2d 870 (Fed. Cir. 1992):	g. :	29
	Fairchild Hiller Corp., ASBCA No. 14387, 72-1 B.C.A. ¶ 9202 (November 30, 1971):	9, :	20
	General Maint. & Engr'g Co., ASBCA No. 14691, 71-2 B.C.A. ¶ 9124 (Oct. 14, 1971):	g. '	42
	Geo-Con, Inc., ENGBCA. No. 5749, 94-1 B.C.A. ¶ 26,359 (December 15, 1995): p	g.	29
	J. P. Davenport Co., ASBCA No. 14661, 70-2 B.C.A. ¶ 8458 (September 2, 1970):	g.	42
	LTV Aerospace and Defense Co., ASBCA No. 37571, 93-3 B.C.A. ¶ 26,248 (July 26, 1993):	g.	19
	Newport News Shipbuilding and Drydock Co., ENGBCA No. 3117, 72-1 B.C.A. 9210 (December 1, 1971):	p.	42
	Santa Fe Eng'rs, Inc., ASBCA No. 25549, 82-2 B.C.A. ¶ 15,982 (July 30, 1982): p	g.	29
	The Garrity Co., ASBCA No. 12174, 67-2 B.C.A. ¶ 6586 (Sept. 15, 1967):	g.	42
	Transit Products Co, Inc., ENGBCA No. 4796, 88-2 B.C.A. ¶ 20,673 (April 15, 1988):	g.	43
	Wright's Automobile Repair, Inc., ASBCA No. 30635, 86-3 B.C.A. ¶ 19,154 (May 23, 1986):	g.	10
5	STATUTES AND ACTS		
	10 U.S.C. § 2306:	g.	24
	28 U.S.C. § 1346(b), 2671 et seq.:	g.	31
	28 U.S.C. § 2680(a):	g.	31
	Pub. L. No. 85-804, 72 Stat. 972 (1958) (codified at 50 U.S.C. § 1431 et seq.):	g.	10
	Pub I. No. 101-510 (1990):	10	34

Pub.L. No. 104-106 (1996):	pp. 9, 24
Pub.L. No. 105-85, 111 Stat. 1860 (1997):	pg. 34
Pub.L. No. 103-355, 108 Stat. 3243 (1994):	pp. 12, 22, 23
S. Rep. No. 50, 98th Cong., 2d Sess. (1984):	pg. 23
FEDERAL REGISTER	
48 Fed.Reg. 42387 (1983):	pg. 8
53 Fed.Reg. 12048 (1988):	pg. 10
60 Fed.Reg. 48208, 48218 (1995):	pg. 9
61 Fed.Reg. 67425 (1996):	pg. 8
61 Fed.Reg. 41467, 41471 (1996):	pg. 9
62 Fed.Reg. 257, 259 (1997):	pp. 9, 24
62 Fed.Reg. 64914 (1997):	pg. 9
FEDERAL PROCUREMENT REGULATIONS AND SUPPLEME	NTS
ASPR 1-330:	pp. 7, 8
ASPR 7-104.45:	pp. 7, 8
ASPR 10-404(A):	pg. 20
DAC 76-26:	pg. 8
DAC 76-40:	pg. 8
DPC 86:	pp. 5, 6, 7
DAR 7-104.24:	pg. 10
DFARS 252.228-7001:	pp. 18, 19
DFARS 252.235-7000:	pg. 21
DEARS 252 246-7001:	ng. 18

DODI 5000.58:	pg. 37
FAR 1.101:	pg. 40
FAR 2.101:	pp. 13, 14, 23, 26
FAR 10.001:	pg. 23
FAR 10.002:	pg. 23
FAR 12.404:	pg. 41
FAR 15.401:	pp. 24, 25
FAR 15.402:	pg. 2
FAR 15.403-1:	pg. 24
FAR 15.403-4:	pg. 24
FAR 15.406-3:	pg. 55
FAR 16.202:	pg. 1
FAR 16.3:	pg. 1
FAR 25.101:	pg. 51
FAR 36.102:	pg. 13
FAR 37.101:	pg. 13
FAR 45.101:	pp. 2, 48
FAR 46.102:	pg. 11
FAR 46.202-3:	pg. 15
FAR 46.801:	pg. 13
FAR 46.802:	pp. 2, 12, 13
FAR 46.803:	pp. 2, 10, 12, 15, 16, 17, 19
FAR 46.804:	pp. 2, 16

FAR 52.212-4:	pg. 19
FAR 52.245:	pg. 18
FAR 52.246-2:	pg. 1
FAR 52.246-11:	pg. 11
FAR 52.246-23:	pp. 8, 17, 55
FAR 52.246-24: pp. 4,	8, 17, 18, 19, 55
FAR 52.246-25:	pp. 8, 17
MODEL CODES	
RESTATEMENT (THIRD) OF TORTS § 5 (1998):	pg. 49
U.C.C. § 2-313 (1978):	pg. 41
U.C.C. § 2-314 (1978):	pp. 1, 41
U.C.C. § 2-315 (1978):	pp. 1, 41
U.C.C. § 2-316 (1978):	pg. 14
U.C.C. § 2-608 (1978):	pg. 42
U.C.C. § 2-714 (1978):	pg. 42
U.C.C. § 2-715 (1978):	pg. 42
U.C.C. § 2-719 (1978):	pp. 41, 42
BOOKS	
JOHN CIBINIC, JR. & RALPH C. NASH, JR., ADMINISTRATION OF GOVERNM CONTRACTS (3d ed. 1995):	
JOHN CIBINIC, JR. & RALPH C. NASH, JR., FORMATION OF GOVERNMENT CONTRACTS (3d ed. 1998):	op. 23, 27, 28, 30
STEVEN H GIEIS LAW DICTIONARY (2d ed 1984):	pp. 15, 26

PERIODICALS

Brett W. Roubal, Protecting Suppliers of Safe Component Parts and Raw Materials Through the Component Part Doctrine and the Sophisticated Purchaser Doctrine: In Re Temporomandibular Joint (TMJ) Implants Products Liability Litigation, 31 Creighton L.Rev. 617 (February 1998): pp.	49,	52
Charles E. Cantu and Randy W. Young, <i>The Government Contractor Defense:</i> Breaking the Boyle Barrier, 62 Alb.L.Rev. 403 (1998):	pg.	33
Corey Rindner, Can Government Really Contract Commercially, CONTRACT MANAGEMENT, November 1998:	pg.	40
D. Scott Barash, The Discretionary Function Exception and Mandatory Regulations, 54 U.Chi.L.Rev. 1300 (1987):	pg.	31
Daniel R. Peterson, Government Procurement & the UCC, CONTRACT MANAGEMENT, November 1998:	40,	56
David E. Seidelso, From Feres v. United States to Boyle v. United Technologies Corp.: An Examination of Supreme Court Jurisprudence and a Couple of Suggestions, 32 Duq.L.Rev. 219 (1994):	pg.	32
Defense Advisory Panel Urges Restructuring R&D, Shrinking Acquisition Workforce, 69 FCR 19, 529 (1998):	. pg.	37
Dr. Steven Kelman, Buying Commercial: An Introduction and Framework, 27 PUB. CONT. L.J. 2, 249 (1998):	. pg.	22
Harold J. Krent, Preserving Discretion Without Sacrificing Deterrence: Federal Governmental Liability in Tort, 38 UCLA L.Rev. 871 (1991):	. pg.	31
James Friedlander, Contract Terms for Simplified Acquisitions of Commercial and Noncommercial Items, Contract Management, April 1999:		26
Jeffrey M. Jakubiak, Maintaining Air Safety at Less Cost: A Plan for Replacing FAA Safety Regulations with Strict Liability, 6 CORNELL J. L. & PUB. POL'Y 421 (Winter, 1997):	. pg.	. 63
Jonathan Glasser, The Government Contract Defense: Is Sovereign Immunity a Necessary Prerequisite?, 52 Brooklyn L.Rev. 495 (1986):	. pg.	. 30
Joseph F. Volk, Practical Applications of Market Research in Government Contracting Contract Management November 1998	ng	24

Joseph Summerill and Todd Bailey, <i>The Use of UCC-Implied Warranties in Public Contracts</i> , CONTRACT MANAGEMENT, November 1998:
Kathryn Dean Checchi, Federal Procurement and Commercial Procurement under the U.C.C. — A Comparison, 11 Pub. Cont. L. J. 358 (1980):
Melanie I. Dooley, DOD Aiming to Cut Acquisition Workforce by 20,000, Close More Bases, Hamre Says, 69 FCR 17, 466 (1998):
Ralph C. Nash, Jr., Risk Allocation in Government Contracts, 34 Geo.Wash.L.Rev. 693 (1966):
Robert T. Ebert, "Commercial Item" Acquisitions: A Primer on the New Pricing & Accounting Rules, CP&A REPORT, December 1997pg. 24
Student Note, Post-Acceptance Liability in Defense Supply Contracting, 56 Va.L.Rev. 923 (1970):
Terrie Hanna, The Government Contract Defense and the Impact of Boyle v. United Technologies Corporation, 70 B.U.L.Rev. 691 (1990):
Victor E. Schwartz and Patrick W. Lee, Product Liability of the Aviation Component Part Manufacturer: A Proposal To Reduce Transaction Costs, 13 Transp.L.J. 393 (1984):
William K. Jones, Product Defects Causing Commercial Loss: The Ascendancy of Contract over Tort, 44 U. Miami L.Rev. 731 (1990):pp. 39, 42, 44, 45, 46, 47, 58
REPORTS AND PAMPHLETS
Defense Acquisition Organizations: Reductions in Civilian and Military Workforce (GAO/NSIAD-96-238, October 23, 1997):
Industry Advisory Council, REPORT OF THE WORKING GROUP ON CONTRACT WARRANTIES (1969): pg. 5
Joint Hearing On Department of Defense Modernization Before Subcommittees On Military Procurement and Research and Development, FDCH Political Transcripts (October 8, 1998):
REPORT OF THE COMMISSION ON GOVERNMENT PROCUREMENT, Selected Issues of Liability: Government Property and Catastrophic Accidents, vol. 4, part H, at 91 (1972):

pg. 37
T pg. 4
pg. 33
ľ